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Stuff

GADGETS / APPS / GEAR



FLEX APPEAL

LG's 64-bit,
self-healing
superphone

TESTED

Alienware Alpha
Samsung NX1
SmartWatch 3



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WELCOME



March is always an exciting time in the gadget world, because that's when products from CES' controlled chaos start becoming available for retail. This year, we also had the privilege of actually interviewing key executives during the show as well, with our online editor Tein Hee Seow making the trip down to Vegas, so it was that much more hectic for us. Judging by what we say, it seems once again to be the year of the Wearable so flip to see the best on show this year in our **Wearable Tech Awards** on p84. Incidentally, 2015 happens to be the year Marty McFly time travels to in *Back to the Future II*'s flying DeLorean, and while we don't think we'll be seeing actual flying cars this year (or even hoverboards), the cars in our cover story this month sure come close. Check out the zero-emission, self-driving, laser headlight-equipped, gesture-controlled supercars that are part of **the Future of Driving** on p54. Finally, if you've ever sat around on a weekend lamenting that there's nothing to do in Singapore, we've got news for you – you just haven't been looking. See what we've managed to find so far in our **Stuff to do** feature on p91. Keep Marching on! 

Melvin Tang, Editor / melvin.tang@haymarket.com / @melvinstuff



p39



p80



p78

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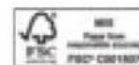
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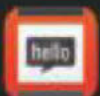
Sometimes you have to dress up



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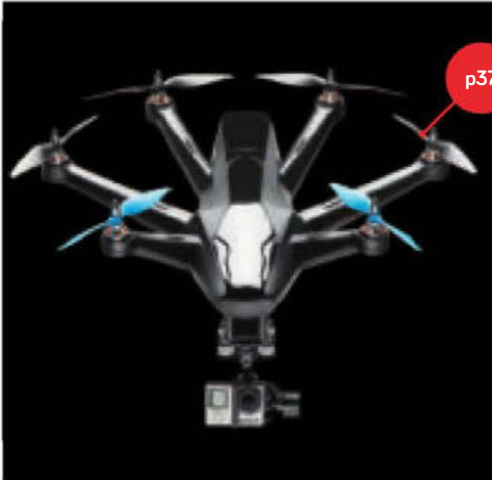


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S CONTENTS



HOT STUFF

8 The Hot Six

- LG G Flex 2
- Parrot Exom
- Sony Walkman ZX2
- MSI GT80
- Garmin Epix
- Invoxia Tribby

16 Vital Stats Fujifilm X-A2

A young gun for big shots

17 Icon B&O BeoSound Moment

Let Bang & Olufsen choose your music for you

20 I made this Alex Garland

The director of *Ex Machina* talks AI and Ava

24 Gigapixel Whirlybird's-eye-view

Daring aerial snaps taken from a chopper

32 Vital stats Samsung ATIV One 7 Curved

One curvaceously immersive desktop PC

34 Games

'Tache up for our preview of *The Order: 1886*

36 Apps

Play *Star Wars* then catch a radio show

37 Best of... GoPro accessories

Extra kit for all your gnarly camera action

39 Vital stats Gogoro Scooter

An electric scooter... but wait, give it a chance!

41 Opinion The truth about actions per minute

Why proper gear for gaming matters

42 Opinion Experiencing the future

Thoughts from the show floor at CES 2015

50 Our month

All the techy scrapes we've got ourselves into

51 Your month

What you need to make time for in March

ON THE COVER



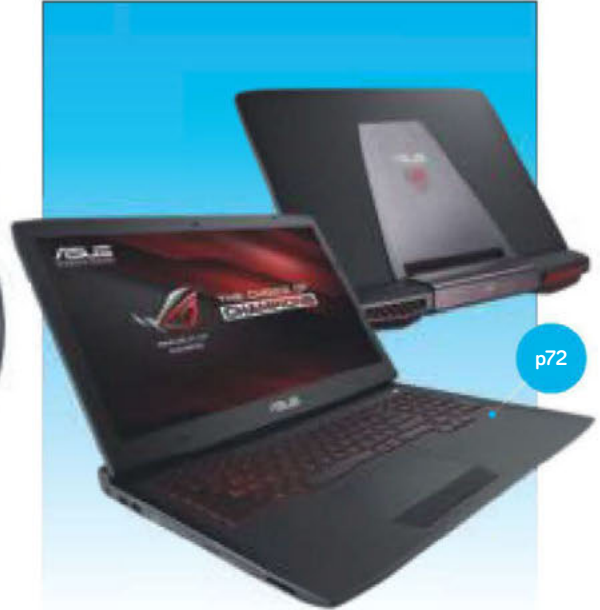
p84
Wearable wonders



p8
Flexible phone



p80
Sammy Supercam



TESTS

72 First test Asus ROG G751

The Godzilla of gaming laptops

74 First test Sony A7 Mark II

Full frame sensibility in a compact body

76 Approved Stuff-approved apps for...

...armchair travel and Earthmiles treats

79 Tested Sony SmartWatch 3

The latest wristwear smarts reviewed

78 First test Razer Leviathan

The bellow of the beast

80 First test Samsung NX 1

All the right stuff in all the right places

82 First test Alienware Alpha

A serious PC with console-slaying ambitions

115 Group test Affordable earbuds

The simplest upgrade for a new phone is a good set of buds, and they needn't be pricey



msi[®]

MSI recommends Windows.



GAME LIKE A GOD

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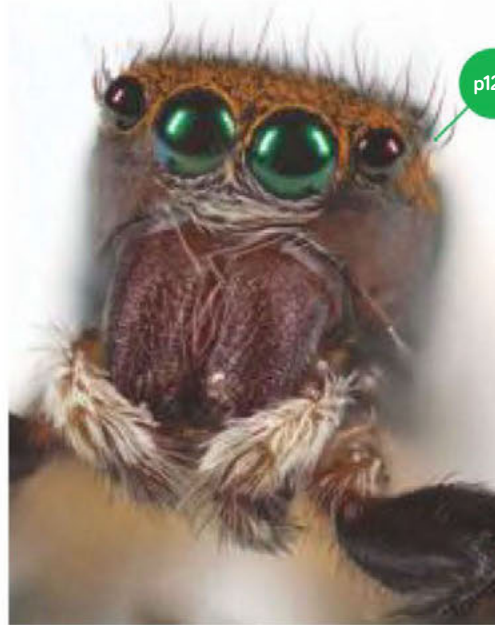
p54



p109



p124



FEATURES

- 54 The future of driving**
Seawater-powered self-driving motors and gesture-controlled personal taxis: the cars of tomorrow are coming for you
- 84 Wearable tech awards**
Fresh off the plane from Vegas, these are *Stuff's* top ten wearable gadgets from CES
- 91 Stuff to do**
If you think Singapore's boring, think again
- 103 The podcast renaissance**
Have you been hooked by real-life thriller *Serial* yet? Headphones at the ready...
- 109 Design Inspired by nature**
When gadget designers take their cue from the prettier bits of the natural world
- 116 Media hoard**
The latest films, music and books reviewed
- 138 Next big thing? Forensic holodecks**
If jury service involves an Oculus, count us in

PROJECTS

- 120 Beta yourself Electronic music**
Making your own beats is now much more than just saying 'un-tsh, un-tsh' repeatedly
- 122 Playlist Techumentaries**
Stop watching *Come Dine With Me* and treat your brain to a techy documentary instead
- 124 Super geek Macro photography**
Stuff.tv editor Marc McLaren explains why he likes taking snaps of very small things
- 126 5-minute hacks If nothing else, at least...**
● Liven up your wallpapers ● Turn a lamp into an iPad mount ● Master your Gmail

p84



TOP 10 OF EVERYTHING

Been away for a while? There are three more *Stuff* Top 10s nowadays: Games machines, Wearable tech and Connected home. Check them out from **p127**



OUR PRICES

Prices in Hot Stuff are RRP's. Prices in features, tests and Top 10s are the best we could find from a reputable online retailer at the time of going to print.

H O T S T

HOT
SIX
#1

FLEXY, EVERYTHING ABOUT YOU'S SO FLEXY

LG G Flex 2

Last year saw the introduction of two bendy phones. The first, the LG Flex, curved on purpose. The second, the iPhone 6 Plus, curved when fretful fanboys took their frustrations out on it. Are bananaphones in fashion, then? With the new G Flex 2, they might well be. Its flexible Plastic OLED (POLED) display is now 1080p, but slightly smaller at 5.5in. It's comfortable in the hand, it's resistant to drop damage and its rear panel even repairs itself when scratched, but it's not just tough on the outside. It's also the first phone we've seen with Qualcomm's hilariously powerful 64-bit Snapdragon 810 processor, backed up by a hefty 3GB of RAM. Add 32GB of expandable storage and Android Lollipop, and here's a phone you'll want to bend repeatedly.

Ashotat, **your yoga face**
Stuff.tv/ig.com/sg



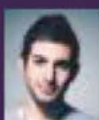
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38 PAGES
OF THE BIGGEST
STORIES FROM
PLANET TECH

Hands-on
with the
G Flex 2
**ESAT
DEDEZADE**
@EsatDedezade



LG has a new spin pattern finish for the G Flex 2's rear cover: faint concentric circles that catch the light as it moves. It looks fantastic in the Flamenco Red colour that we got to try – a deep two-tone glossy red reminiscent of a classic Gibson. Even without its banana-like form factor, it would be a stunning phone.

Looks aren't worth a jot without ergonomics,

however. The curve and lower 152g weight make the phone feel natural in the hand and easy to grip. It's not notably flexy unless you put a bit of effort in, which feels right to us.

The self-healing rear panel of the first G Flex has been improved. LG tells us that minor scratches will now disappear in ten seconds, as opposed to three minutes, and we can confirm this. The cover itself can be replaced, but the 3000mAh battery is non-removable.

On paper, the G Flex's OLED screen is not as sharp as that of its LG G3 stablemate. In practice it's plenty crispy, and without having both devices you'd struggle to miss the extra pixelage. Blacks are deliciously deep, colours are vibrant, and viewing angles hold up well.

From the brief time that we've spent with it, the LG G Flex 2 definitely warrants a more in-depth look – which we'll bring you as soon as we can.

HOT
SIX
#2

A REAL HEAD-TURNER

Parrot Exom by Sensefly

Humans have learned a lot from nature: legs point in the direction of the floor, for example. The Exom quadcopter photo drone also borrows from homo sapiens' huge list of observations by having distinct head and body sections. The body and wings can waggle with the wind, but the head remains level and stabilised. This ensures that it can make the most of its various senses: high-res still photos, HD video and thermal cameras, all capable of working simultaneously. The engineers at Sensefly – acquired but not fully subsumed by Parrot – didn't do all this natural extraction for a \$40 laugh, though. The Exom will be a serious drone aimed at commercial or industrial work, with a serious price to match.

As hot as... your walking wiggle
Stba/parrot.com

HOT
SIX
#3

24-BIT BONCE BOX

Sony Walkman ZX2

Having (barely) recovered from the blow of losing the iPod Classic, we're finding solace in a device bearing the trusty Walkman brand. The ZX2 is a satisfyingly chunky piece of tech designed to be the standalone high-res audio player that wandering audiophiles have been quietly clamouring for. It supports pretty much every high-res audio file type you care to name, up to 192kHz/24-bit quality, but if your collection contains some shamefully small files, fear not: it also has Sony's DSEE HX tech for upscaling nasty noise to lovely music. There's 128GB of internal memory, with another 128GB available via microSD.

Ashtots... **studio-quality sound on the bus**
\$7599 / sony.com.sg



HOT
SIX
#4

ATTACK ON TITAN

MSI GT80 TITAN

Mechanical keyboards have always been the weapon of choice for pro gamers and enthusiasts around the world, thanks to faster responsiveness that's all the better to frag you with. They're also really fun to press, so it was a pleasant surprise when MSI unveiled this behemoth of a gaming laptop with a built-in mechanical keyboard at CES 2015. It's positively packed to the brim with power, including two GeForce GTX 980M GPUs in SLI, which explains its equally-eye-popping price. There's also a non-SLI version with just the one GPU for \$4699, but if you're already willing to shell out that much, you might as well go all the way. Hey, nobody ever complained about having graphics that were too awesome, right?

Ashot as... two GTX 980Ms at full power
with no cooling

\$5799 / gaming.msi.com



**HOT
SIX
#5**

KNOW HILLS LIKE THE BACK OF YOUR HAND

Garmin Epix

"He's got the whole world in His hands, got the whole wide world in His hands." Well, then, ask Him what the elevation of yonder ridge is, because we want to know if it's going to be dangerous to attempt it before nightfall. He doesn't know?

Typical. Fortunate, then, that while we don't have the whole world in our hands, we do have topographical maps of Europe on our wrist. This new flagship Garmin watch combines all of the multisport/ triathlon tricks of something like the Forerunner 920XT with the smartwatch snazziness of the Vivoactive and the GPS navigation of an Edge or Oregon handheld. It has a 1.4in colour touchscreen with 8GB of internal storage, plus Bluetooth for smartphone sync. So tell your mate with the big hands that the Epix could show him a thing or two about epic adventures.

As hot as... the fiery pits of hell
US\$550 (\$740) / garmin.com

Stuff
2015
WEARABLE
TECH AWARDS

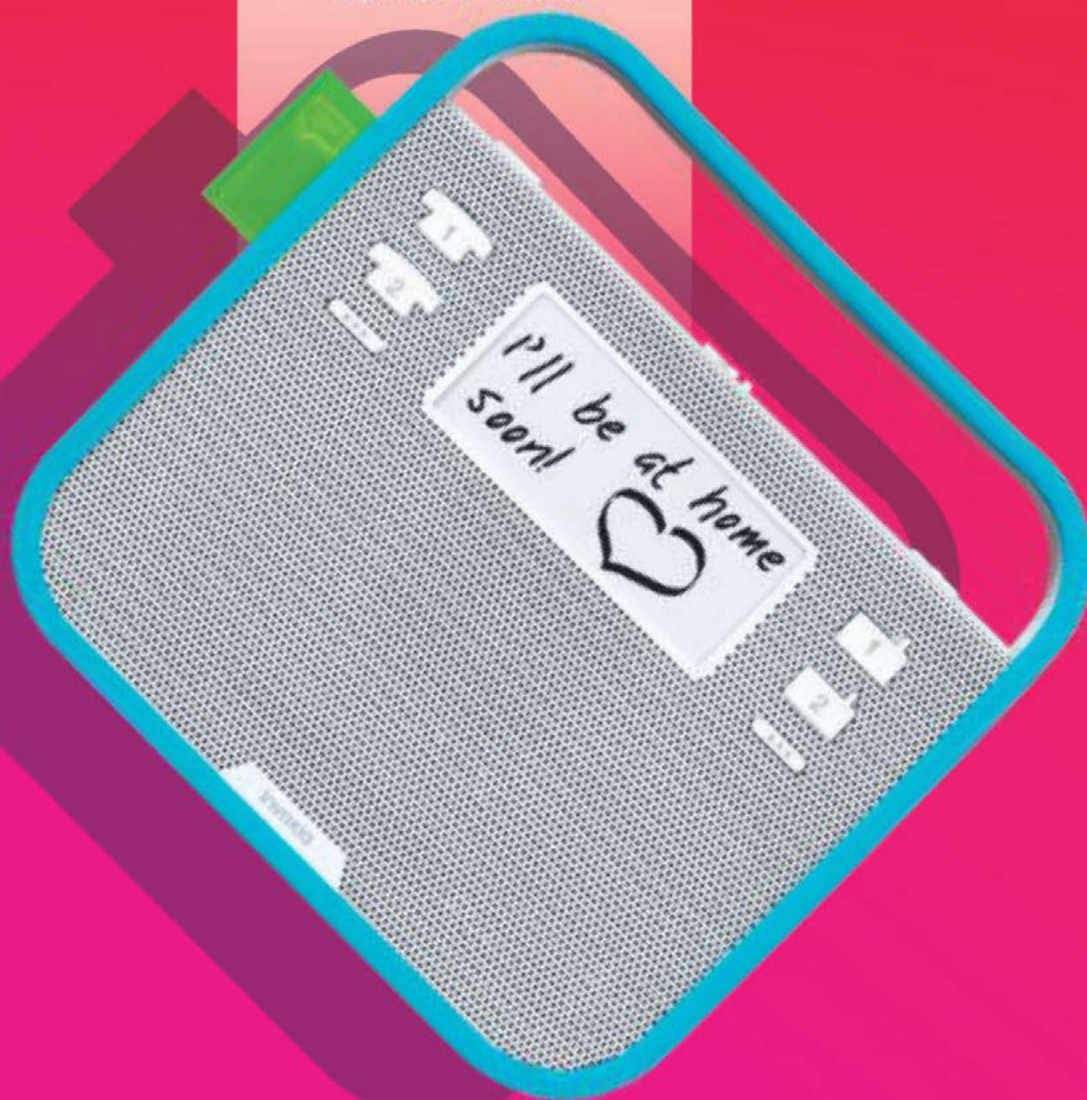
Read about more wearables we loved from Las Vegas's CES in *Stuff's* first ever Wearable Tech Awards on p84

HOT
SIX
#6THE FRIDGE IS
COOL AGAIN

Invoxia Triby

Whatever Wi-Fi router manufacturers might tell you, the true 'hub' of any home is of course the fridge. It's often delved into on a purely speculative basis, or while chatting, and it has traditionally been the site for analogue message systems, such as passive-aggressive 'reminders'. But why have a paper note when you can have an E Ink message? Why frown at someone's request to take the bin out, when you can phone them using the Triby's VoIP call functionality and discuss whose turn it is? And why not investigate how different condiments taste on cold pizza, while you're at it?

Ashotas... **that half-eaten curry**
US\$200 (£270) / invoxia.com





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Fujifilm X-A2

Siba / fujifilm.com.sg

Compact system cameras are getting better all the time, and Fujifilm's new X-A2 is yet another prime example

● It's so easy

Having tons of dials and manual controls on cameras is well and good for seasoned users, but newbies are more than likely to be intimidated by them, let alone put them to good use. That's why the X-A2 has got something for everyone, providing the same level of control while still allowing beginner users to jump right in through the use of intuitive shooting modes. They do this by including two Command Dials for easy fine tuning of controls, and Advanced SR Auto mode which instantly assesses what's in frame and automatically selects the best photo settings for it. All you have to do is press the shutter button.

● It's focussed on what's important

With so many different kinds of autofocus on the camera, you'll be sure to get sharp images of your subject. Simply allow Eye Detection AF, Auto Macro AF, and Multi-Target AF modes to decide the optimal autofocus setting for your usage scenario, and snap away with your mind at ease.

● It's better to shoot yourself with

To cater to the burgeoning selfie craze that's gripped the world in recent years, Fujifilm's also equipped the X-A2 with a 175-degree tilting LCD monitor, so you can see exactly what you're shooting when indulging any narcissistic tendencies. The camera even helpfully switches to Eye Detection AF mode when the screen is fully opened, locking in on your eyes automatically. Of course, it's not just for selfies – the tilting screen also makes shots from different angles easier.

● It's got a new old look

The camera also comes with Fujifilm's Classic Chrome Film Simulation mode, which instantly treats your images with a beautiful dramatic effect for improved storytelling. That's on top of several other Film Simulation and Advanced Filters available too, affording users with a ton of creative options in terms of specialized looks and effects for their photos. Don't bother with those Instagram filters, if anyone knows how to simulate film effects on photos, it's Fujifilm, with 80 years of film development expertise under their belt.



B&O BEOSOUND MOMENT

\$4000 / bang-olufsen.com



Would you mind explaining what this is?

Okey-dokey. But we'll start with what this isn't. The BeoSound Moment is not a speaker. You'll need one of Bang & Olufsen's wired or wireless active speaker systems to get it to put any noise in your noiseholes. What this is, though, is an 'intelligent' wireless music controller. It'll choose music – from your network-attached storage, from your mobile device

or via Deezer's online service – and it'll play it. Intelligently.

OK, I'll bite. What's the 'intelligent' story?

It has 'PatternPlay', which B&O claims will learn what music or radio stations you play at certain times of day. Press that pretty wooden button on the controller and it should play something you're ready to hear. If not, you just lift it up – ta-daa, it's

actually a tablety wotsit – and on the other side is a more conventional-looking aluminium control layout with a LCD screen. But there's more.

More?

More! On that LCD screen, you can display a Mood Wheel. The colours denote emotions. Touch a colour and you'll hear appropriately emotive music from your own collection; but slide an exploratory

finger further out on the wheel and the Moment will go a-hunting on the internet for something new, surprising and/or horrifying. Either way, it's all a bit unique, which is what we'd expect from the Danish design dons. And what we'd want from a \$4000 spend – this is Big Daddy B&O, remember, not the relatively affordable headphone and Bluetooth speakers spin-off known as B&O Play.



TOUCH A COLOUR
AND YOU'LL HEAR
APPROPRIATELY
EMOTIVE MUSIC



A is not for Apple

SAMSUNG GALAXY A7

Not in this case, anyway. The latest in Samsung's ever expanding portfolio of smartphones is the A series, with three models that all pack slim metal unibody designs, Super AMOLED screens, and advanced selfie features such as a 5MP front camera and real-time photo retouching to satisfy any narcissistic tendencies you may have. Topping the line is the Galaxy A7, with two quad-core processors and dual SIM capability that give it serious smartphone chops as well.

Stba / samsung.com/sg

Turn up the Tech

AUDI TT COUPE

There's a reason Tony Stark drives an Audi (except for that one time in the Avengers) – they're high tech, look sharp, and are expensive. Heck, if Iron Man were a Transformer, he'd probably be an Audi. In town making its local debut at the Singapore Motor Show recently was the third-generation Audi TT Coupe, and it definitely doesn't disappoint, looking better than ever while promising a more advanced driving experience.

S265,600 (including COE) / audi.com.sg



THIN IS IN

Work and play in one seamless package with
ASUS' Transformer Book Chi range of ultraportable convertibles

In Chinese culture, "chi" is the life force that energises all of us – something that ASUS aims to emulate with their latest Transformer Book Chi products. With three incredibly thin models of differing sizes packing high levels of quality, versatility, and performance, there's bound to be a Chi to take care of your everyday needs.

Leading the way is the CES 2015 Innovation Award-winning T300 Chi, the perfect companion for professionals with its crystal-clear 12.5in screen, outstanding performance, and energy efficiency. On the other hand, those seeking a good balance between screen size and portability can go for the 10.1in T100 Chi, which offers a potent mix of size and power with all day battery life. Rounding things up nicely is the T90 Chi, a compact 8.9in affair for those who value portability above all else without compromise.

asus.com/sg



Looking sharp

It's not enough that the beautifully crafted Transformer Book Chi range is amazingly thin in their laptop forms – the T300 Chi measures just 165mm when docked – but when detached into tablet mode, the T100 and T90 make up some of the thinnest tablets in the world. At just 7.2mm, the T100 Chi is the thinnest Windows tablet ever made, while the 7.5mm T90 is the world's thinnest 8.9-incher. In addition, they're all fitted in diamond-cut chamfered aluminium-edged unibodies, meaning they're as strong and sleek as they are slender.

Main attraction

The key to the Chi series' effortless transition between its tablet and laptop modes lies within its specially-designed magnetic hinge mechanism. Equipped with magnetic wonder-material neodymium for maximum field strength, docking and separation of the Bluetooth-connected ergonomic keyboard can even become a deeply addictive affair due to the satisfying thunks of both pieces snapping together securely.

Power on the go

The fact that they're packed with such a high level of specifications makes the Chi series' thinness all the more impressive. That's all thanks to power-efficient Intel Atom processors in the T100 and T90 for uncompromised performance and battery life, with the T300 Chi packing even more muscle thanks to an Intel Core M processor. All Chi models also utilise a fanless cooling system, meaning they will run almost completely silently, especially when coupled with the fast-responding solid-state storage that comes standard in all three models.

Quality on display

User experiences on devices nowadays are largely defined by the quality of the screen. And the Transformer Book Chi definitely deliver, with beautiful IPS displays powered by ASUS TruVivid and Splendid technologies for optimal brightness and colours, wider viewing angles, and crystal clarity. Case in point – resolutions as high as WQHD (2560x1440) on the T300 Chi mean pixel density goes up to 235ppi.



For more details on full specifications, please visit www.asus.com/sg

Advanced string theory IK MULTIMEDIA iRIG 2

The original iRig heralded the start of an accessory revolution. At the time, we thought: "Look at this novelty item that lets you connect your guitar to your smartphone. What a brief laugh we will have with it!" Years later, our phones are linked to everything from dog feeders to drones, and a second iRig has come along to make a mockery of our earlier dismissiveness. This new one works with Android, as well as iPhone, and has 1/4in jacks for both input and output. So you can run your smartphone-sampled guitar sound straight out to an amp, not just straight into your headphones.

€30 (\$45) / ikmultimedia.com



ALTERNATIVELY...

Samsung Portable SSD T1

Solid-state innards make this Samsung drive credit-card-sized and super-fast, but a 1TB version will probably cost about \$800.
from US\$180 (\$245)
(250GB)



It sees you better than you see yourself LACIE MIRROR

Following in the pensteps of Philippe Starck and Neil Poulton, LaCie's newest designer drive is by French objectsmith Pauline Deltour. Her trademark study of everyday objects is apparent in that the Mirror has mirrored sides, meaning it doubles as a mirror. Gorilla glass should prevent scratches if you take it out, and it's USB-powered so doesn't need a mains adaptor. We would suggest that, while as a mirror it reflects you, its 1TB of storage better reflects you by containing all the files that make up your digital soul. But Pauline's the designer, not us.

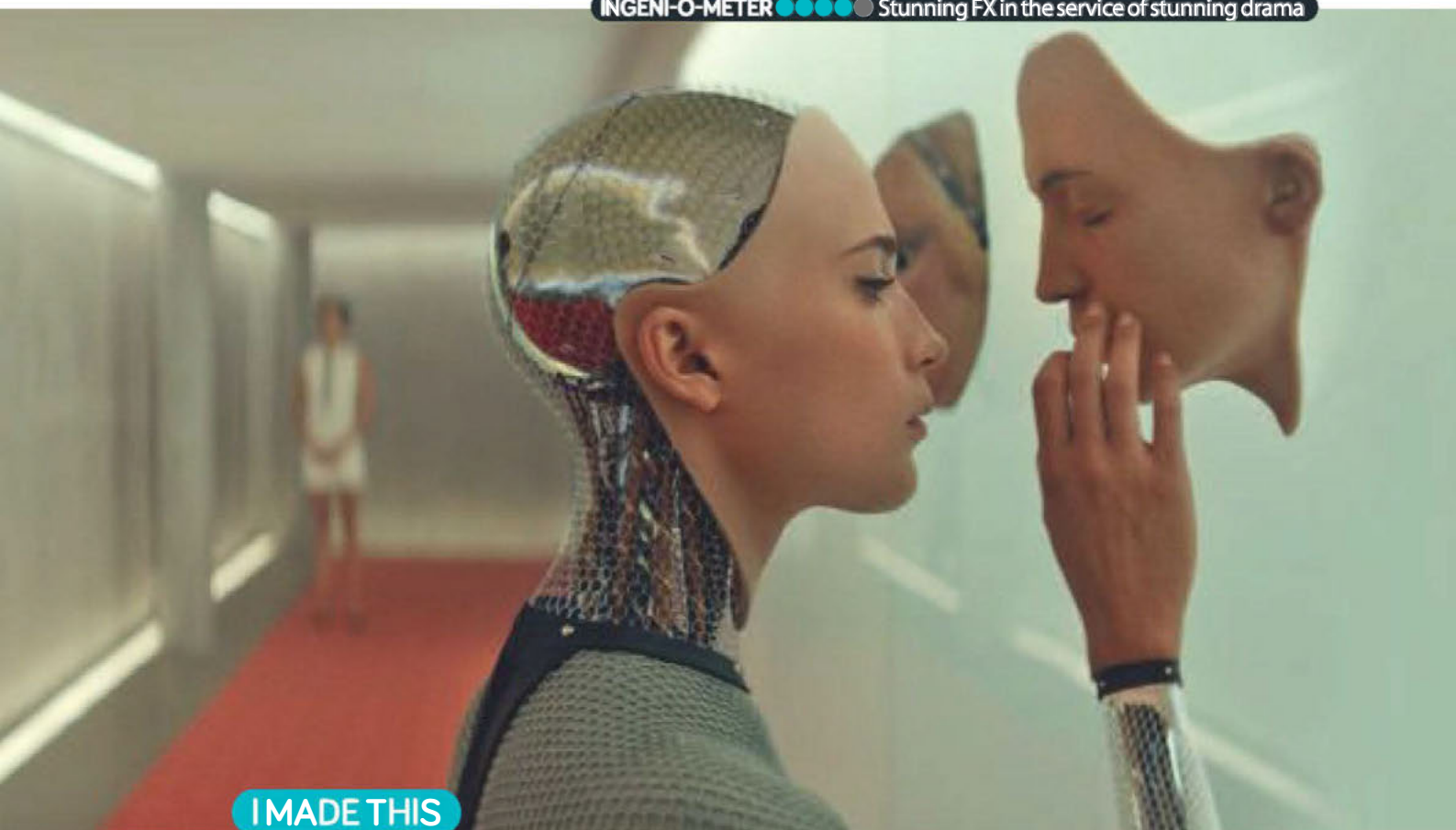
US\$280 (\$380) / lacie.com

Where are my EYES!? Oh, there STEELSERIES SENTRY EYETRACKER

Game streaming is the hot new spectator sport that you don't know about. Instead of playing a game, you watch a live stream of someone else playing the game, while they simultaneously talk to the watching audience, listen to questions and generally make the whole thing look really damned easy. If they're also using an Eye Tracker you can see – in real time – where the über-gamer is looking while they play. The endgame of this is that you improve your own skills by comparing it – so long as you also have an Eye Tracker – to where your eyes are going.

€200 (\$305) / steelseries.com





I MADE THIS



A SCI-FI THRILLER WITH BRAINS

Alex Garland on directing *Ex Machina*

I've been interested in AI since I made a 'Hello World' program on a ZX Spectrum as a kid. I mean a kind of AI that doesn't exist yet, which is sentient and self-aware. I get fixated on a subject and then a story floats out of it years later. I was in working on the *Dredd* screenplay and this fully formed idea for *Ex Machina* [in which a young coder becomes the human element in a Turing Test] arrived.

I want people to forget that Ava [above] is a robot, while seeing

"I DON'T FEEL ALARMED BY TALK OF CONSCIOUS, SELF-AWARE MACHINES. THEY MIGHT BE BETTER THAN US"

that she's a robot. Humans find it really easy to project emotion onto inanimate objects, let alone animate objects. The hard thing is stopping them from doing it. It's easy to find a child who believes their teddy bear has sentience;

the tricky thing would be finding one who says it's just a bit of old cloth and some stuffing.

The film wouldn't work unless it was supported by Double Negative's visual effects. Ava's a real blend of practical and visual effects. Alicia Vikander [who plays her] wore a prosthetic that created a kind of mask face and a ridge so there was something to map the CGI onto. She also wore a bodysuit, which is the mesh you see over her chest and shoulders. We were actually still tweaking stuff when we shot it.

In the film the back of Ava's head and her neck are robotic, but that wasn't the original intention. It was just going to be her legs, arms and torso – but we realised that every time we went to a close-up of her face it felt like we were doing it just to frame out difficult visual effects, so in the end we put them

into shots that we hadn't intended them to be in.

The people who are funding this technology in a heavy-duty way are Google, Facebook and the big tech companies, because there's real value in computers that can speak in a particular kind of way. Siri is good but it can't really speak, not like a person can. You know in moments that you're not talking to a human.

But I don't agree with Stephen Hawking [who recently said AI could spell the end of the human race]: I think AI's a good thing. If we're talking about AI as a conscious, self-aware machine with an emotional life in the way we have one, what you are saying is that the creation of a new consciousness is something innately problematic. I would say that every time people have a child they create a new consciousness, so I don't feel necessarily alarmed by it. I also think it's perfectly possible that the new consciousness might be better than us in various ways – and if that's the case, why on earth would you want to stop it?





A HIGH-PERFORMANCE COMPACT SYSTEM CAMERA,
THE FUJIFILM X-A2 WILL LET YOU CAPTURE PICTURES IN YOUR OWN STYLE



**PREMIUM QUALITY SELF-PORTRAITS
WITH THE 175° TILTING LCD**

The 175° tilting LCD screen allows you to capture self-portraits and group photos from a variety of angles. The screen is also touch-sensitive, making it easy to navigate through the camera's menu and take photos with a simple tap.

**PORTRAIT ENHANCER MODE MAKES
SKIN LOOK BRIGHTER AND SMOOTHER**

The Portrait Enhancer mode uses advanced image processing to make skin tones appear more natural and smoother. It also helps to reduce noise and improve overall image quality, resulting in more professional-looking portraits.

***INCLUDES XC 16-50MM LENS II KIT**

**AUTO MACRO FUNCTION CAPTURES
OBJECTS JUST 15CM FROM THE SENSOR**

The Auto Macro function allows you to capture close-up shots of small objects, such as flowers or food, with incredible detail. The camera's lens can focus on objects as close as 15cm from the sensor, ensuring that every petal and leaf is in sharp focus.



A form of freedom**SENNHEISER URBANITE XL WIRELESS**

As if Sennheiser's Urbanite XL headphones weren't good enough already, they've gone and made it even better by removing the wires. Bluetooth 4.0 aptX for crystal clear streaming, NFC for easy pairing, touch controls for volume adjustment and track navigation, and 25 hours of playback, all in a sturdy stylish package? It sounded almost too good to be true at CES 2015, but mere weeks later, it's real, and it's right here in Singapore already.

\$419 / sennheiserasia.com

**Opticblast****ASUS ZENFONE ZOOM**

Smartphone photography has really taken off in the past couple of years, with phone cameras becoming increasingly impressive in terms of quality. Now Asus tries to take the next leap forward with the Asus ZenFone Zoom, which made waves at CES 2015 as the world's thinnest smartphone with 3X optical zoom on a 13MP camera. There's even an optical image stabiliser, laser autofocus, and full manual controls thrown in, showing just how much Asus hates compact cameras and wants you to get rid of them.

\$tba / asus.com/sg

**Size matters****NIKON D5500**

Cameras are getting crazier all the time. There are so-called compact cameras the size of DSLRs, compact system cameras that weigh as little as compacts, and DSLRs that are practically compact system cameras. And now there are smartphone cameras in the picture as well. One such category-defying snapper is the D5500, with its CSC-like footprint (it's the world's smallest, lightest, and slimmest DSLR), smartphone-esque vari-angle touchscreen LCD monitor and wireless connectivity, and full-fat DSLR 24.2MP image sensor.

\$tba / nikon.com.sg





Transmatroller MAD CATZ L.Y.N.X.

"Darling?" says your gender-unspecific partner. "A large wodge of cash has left our account. Was it you?" As a vein throbs on his/her forehead, you explain how you've spent several hundred dollars on pre-ordering a Bluetooth controller for mobile gaming. A second vein now. You forge on: it splits in two, in order to clip onto different phones and tablets. It has dual analogue sticks, shoulder buttons and a mini keyboard! "I got one for each of us!" you say to the back of a slammed door.

US\$300 (\$405) / madcatz.com



Weaving a web of hi-fis CAMBRIDGE AUDIO CXN

There was a time when any kind of music streaming would send audiophiles running for their caves, clutching their huge, misshapen ears in pain at the lack of dynamic range. But now streaming is all grown up, with suitably high-end kit like the CXN. It'll stream from your own collection or online services at up to 24-bit/192kHz quality, using Wi-Fi, Ethernet XLR or AirPlay, and it also works as a preamp thanks to its 32-bit Blackfin DSP. Just remember to feed it full-fat, high-res files.

from £300 (\$610) / cambridgeaudio.com

? WTF IS THE IMPECCA ALERT BAND?



Is it a Wi-Fi-boosting Alice band?

No, and nor is it a Geordi La Forge-style image-enhancing visor. Did you know that during *Star Trek* filming, the prop visor that was supposed to give his character amazing multi-spectrum vision actually caused the actor to walk into everything? And gave him headaches? Them's the breaks. Anyway, it's not that. It's a brainwave-detecting headband. When it senses that you are about three minutes away from falling asleep, it sends a notification to your phone.

What, to wake me up? That'll be bloody annoying.

Yeah, but just think about how pleased your passengers will be when they find out their journey doesn't take a surprise detour through two fields and someone's living room. Reveal! It's a driving device, to make sure you don't overdo it behind the wheel and end up testing your car's NCAP rating while already unconscious. In fact, the Alert Band was dreamed up by someone whose friend was injured after being hit by a dozy driver. But therein lies the problem with a gizmo of this kind: assumed responsibility.

Ah, because the driver who might consider wearing this is the one who's less likely to need it?

Exactly. A professional road warrior – such as Trucker Tobias or Regional Sales Sandip – might argue that their experience is superior to the Alert Band. Whereas the infrequent long-distance driver – Driving Home For Christmas Derek – might be more aware of their susceptibility, but will likely turn their nose up at the US\$250 (\$340) asking price. So, unless it's made compulsory or built in to cars' safety systems in the future, better file it under 'interesting'. And in the meantime (and forever after), we dearly hope it doesn't occur to our bosses to implement it at our desks...



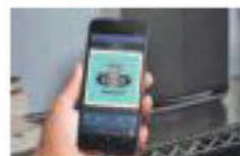
NEW YORK NIGHT FLIGHT

Sometimes art just falls out of its creator, like a sudden sneeze. Other times, it has to be coerced into being, and photographer Vincent Laforet employs more coercion than most. When his usual helicopter pilot refused to fly at the altitude needed for these shots – 2300m, so high that they were above the airliners on approach to JFK airport – he found a more daring flyer. Next issue: finding a camera and sets of standard and tilt-shift lenses fast enough to overcome the helicopter's vibration and wind buffeting... oh, and a good strong harness. You know, for when he was hanging off the helicopter.



INTEL UNVEILS BUTTON BRAIN

Intel's tiny new brain for wearables, called Curie, has a processor, sensors and Bluetooth hardware, and is designed to run on very little power. Fancy using it to build your own megaselling wearable wonder? Head to p84 for some inspiration.



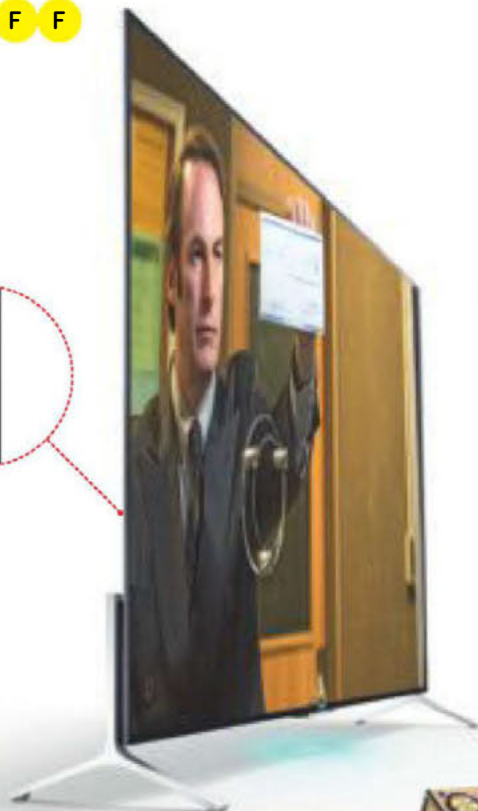
GOOGLE ADDS AUDIO FLING TING

Not just video no more, later this year Google will add the ability to fling content from a variety of music apps to networked speakers around your house. Good news: the wireless speaker will do the actual streaming, not your phone. Bad news: no mention of Spotify compatibility. Yet.



CANON SIMPLIFIES YOUR MEDIA MESS

Canon's new Connect Station is a 1TB media bank that wirelessly pinches pics and videos from your camera or phone, then acts as a wireless server that can pipe the content to your TV. It's like the Ghostbusters Ecto-Containment Unit, but for your holiday snaps.



4K and 4.9mm SONY XBR-X900C

There are many questions you ask yourself when buying a telly, from how many pixels it has to whether you can afford it, but there's just one you should be asking: is it thin enough? Tech law states that a thinner gadget is a better gadget and Sony's new Bravia models are the current champions. Yes they have 4K processors, an Android TV OS and voice search – but the real appeal is their svelte 'floating' frames. At their slimmest they're just 4.9mm deep, which is enough to make an iPhone 6 look chubby. Just don't try putting one in your pocket.

Stba / sony.com.sg

Bedazzling beats

PIONEER DDJ-SZ-N

An amp that goes up to 11, go-faster stripes, air capsules in your trainers – there's little tangible benefit to any of these things, and yet we pay more because they make us feel zippy. Likewise with this gold edition of Pioneer's almost-professional-level digital DJ deck. It's the same as the black DDJ-SZ – Serato control, dual USB, two different hardware FX panels, CDJ-style LED panels in the jogwheels – but it's gold and limited to 1000 units. And with that glittery finish costing just \$640 over the standard version, you'd get at least one. Right?

£1750 (\$3540) / pioneer.com.sg



DROP EVERYTHING AND DOWNLOAD...

Evernote Scannable \$free / iOS

That huge pile of bills and statements on your kitchen table is a negative force in your life. You know there's important stuff in there, but dealing with it means getting the filing box out of cupboard and concentrating and blah. New process. Open post the day it arrives, fire up Evernote Scannable. It lets you instantly photo-scan the document, then it flattens, re-contrasts and resizes the image. Share it to Evernote. Throw the paper bill in the recycling. Done. You still haven't paid the bill, but at least the kitchen table is clear.

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More than just a pair of bezels **DELL VENUE 8 7000**

Dell calls the 8.4in, 2560x1600 OLED screen on its latest tablet an 'infinity' display. Which is perceived as being a good thing. But a truly infinite display would be a bummer. "Where's the Chrome shortcut icon gone? Oh, it's six light years over there. Damn." And just think how much it would weigh! We're being silly. What Dell should be shouting about is how this Android tablet is thinner than an iPad Air 2 at just 6mm. It's also the first tablet with Intel's Real Sense 3D camera tech, giving you Lytro-esque post-processing abilities, and has a 2.3Ghz Intel Atom quad-core chip. Infinitely more exciting than tiny bezels.

\$tba (due early 2015) / dell.com.sg

Defenders in the Earth **LAND ROVER DEFENDER**

Tinker, tailor, soldier, sailor, hipster, headmaster, kiteboarder and monarch. Defenders have been called into service by anyone and everyone for the last 32 years, but the idea of driving around in a two-tonne oblong of hardened metal has gone out of fashion. Three limited-edition models mark the Defender's final year of production: the beefy Autobiography Edition, the even more swarthy Adventure Edition (pictured), and the classic Heritage Edition. All have unique styling and upgrades, including Windsor leather interiors, which honour an automotive icon but also mean you won't want to fill them with muddy spaniels.

Which, with a Defender, is sort of the whole point.

\$tba / landrover.com.sg



ALTERNATIVELY...

For a little more money you can lug some batteries about, in the lovely form of these now-wireless Sennheiser Momentums: Bluetooth and noise cancelling for about US\$500 (\$675).



Sippin' on choon and juice **PHILIPS FIDELIO NC1L**

Philips' new Fidelio NC1L headphones are something of a mould-breaker: they're the first active noise-cancelling cans that don't require battery power. Instead, they draw energy and audio from your iPhone or iPad through the Lightning port. An on-board 24-bit DAC converts the digital audio into delicious analogue sound. The noise cancellation tech has additional modes for muffling the hum while letting other external noises through – for when you're listening for a train announcement, say – as well as optimised hands-free phone-call use.

\$499 / philips.com.sg



A-do run, run, run
PARROT ZIK SPORT

These zany headphones not only know how fast your heart's beating, but how many steps you're taking, how long your feet are in contact with the ground and your cadence in steps per minute, thanks to accelerometer tech in those head pads. They also have noise-cancellation so that, via Bluetooth, you hear more of the upbeat music than the outside world laughing at your shambling stagger.

[Stba \(due Q2\) / parrot.com](#)



Pump up the volume
REEBOK ZPUMP FUSION

Remember the original 'wearable tech' revolution in the '90s? No, not calculator watches, but trainers with bonkers cushioning systems. Nike Air vied with British Knights and LA Gear, but it was Reebok Pump that took kicks to new inflatable heights. Now the tech has returned in these running shoes. Press the button on the heel, and it will slowly lock around your foot for a snug fit. Not quite self-lacing, but the next best thing.

[Stba \(due March\) / reebok.com](#)



**? WTF IS THE
CONNECTED
CYCLE PEDAL?**

Well, there's a clue in the name...

Oh, smartypants. Yes, it's a bike pedal but it's the first connected one we've seen. Within the body are GPS and GPRS chips. The idea is that if your bike moves while you're not on it, it'll send a push notification to the app on your phone. "Zut alors!" it'll say, for Connected Cycle is a French company, "Regardez votre vélo!" The tracking tech isn't lazy when you are on board either: it'll serve up some basic fitness data about distance travelled, though it sounds like the company is more focused on anti-thievery cooperation.

GPS, huh? Sounds likely to be battery-intensive.

Ah, oui, bien sur. But here's clever: the rotation of the pedals (while you're cycling) charges the battery. Isn't that neat? I think we might be spurred to cycle all the faster just to jazz the little blighters up – and on steep hills, with the grinding of the dynamos all too audible over the sound of the blood pumping in our ears, to do a little Gallic cry.

Couldn't le petit miscreant just whip the pedals off, lickety-split like?

La nope. For Connected Cycle has seen fit to give the pedals a unique tool for undoing duties rather than stick with the conventional Allen key or pedal spanner. Which, like similarly unquified locking wheel skewers, is all fine and dandy until you lose the tool. But we're projecting; so far this is just a concept. Allons-y, Connected Cycle!

[Stba / connectedcycle.com](#)



MO WEMO

Internet of Things pioneer Belkin has announced a new range of sensors for its WeMo system. Later in 2015 we should see a door/window sensor, a motion sensor, a keychain home-or-not sensor and an innovative alarm sensor that alerts you when any non-connected alarm is going off.



NOT JUST A PRETTY FACE

TV manufacturers are all about the inner beauty these days. Samsung has announced that all of its new smart TVs in 2015 will come with its Tizen OS, as seen in mobile phones and smart watches. Panasonic, meanwhile, will introduce Firefox OS to some of its TVs this year.



NVIDIA DROPS A TERAFL0P

The tiny Tegra X1, Nvidia's new mobile chip, has 256 cores and more muscle than the cast of *Gladiators*. Boasting the same Maxwell architecture as Nvidia's gaming graphics cards, it could bring 4K gaming to your next phone/tablet.



A Bolt of lighting MISFIT BOLT

Smartphone-controlled colour-changing bulbs have been around for ages... and yet still you stall. Why? Is it the money? The Misfit Bolt is available for just US\$50 (£70). While the rival Philips Hue bulbs can be bought for the not-much-more-expensive price of \$89, they also require a hub, bringing the overall package price up to about \$140. Is it the lack of a connectable ecosystem? The Bolt will work with Misfit Shine and Flash wearables, and also with the Beddit sleep tracker to wake you, on cue, with a lovely display of sunrise colours. What's that? You're colourblind? Fair enough, then.

US\$50 (£70) / misfit.com



An added dimension 3DOODLER 2.0

The 3Doodler won our hearts back in 2013, and after some furious tinkering it's got even better, as things are wont to do. For starters, this 3D printing pen is much smaller than the original, and lighter at 50g. It's also kitted out in a much more stylish aluminium shell, with tweaked internals, superior cooling and dual-speed control. There's also a new JetPack accessory that bumps the running time up to three hours if you're using the more malleable PLA plastic. In a homage to its original success, it's being launched on Kickstarter.

US\$100 (£135) / the3doodler.com

MASKS

Because a face
a day keeps the
doctor away

1 Unicorn Mask

You are Derek. You have a love of the fanciful, yet only just cleaned the blood off your horn after yet another person in your local made the 'long face' joke. You are the occasional stunt double for Bjorn of the vastly popular puzzle game, *Peggle*.
£10 (\$20) / red5.com

2 Skull Mask

You are Frank. Whilst laboriously cutting, folding and taping the angular masks you obsessively download, print out and make, you often ponder the merits of humans having so many different types of screw head. Surely flat-head should be phased out.

£4.50 (\$9) / wintercroft.com

3 Zombie Mask

You are Basil. Certain things have changed in your life since your partner left. For one thing, she took all the make-up with her. But that's led to you discovering the convenience of instant-on stretchy zombie masks. You can, and do, fit several in your pocket.

£5 (\$10) / red5.com

4 Mexican Wrestling Mask

You are Rose. Your love of Mexican wrestling makes you giggle at the comparatively straightlaced moves of Tuesday night tai chi. Your guru frowns. He has seen the shock of red hair poking out of your gym bag and fears imbalance.

£15 (\$31) / cnoba.co.uk

5 Mr Pug

You are Donald. The chin-strap-articulated pug jaw and sorrowful eyes add a certain gravitas to your impression of Ice-T's canine *Tank Girl* character, T-Saint. The effect on your Ronnie Corbett impression is so great, you plan to use it in your next job interview.

£50 (\$102) / firebox.com

1

2

3

4

5

CURVE YOUR ENTHUSIASM

Samsung ATIV One 7 Curved

US\$1300 (\$1750) / samsung.com/sg

The Samsung's brain and curved screen fit into a package just under 4cm deep



Your TV's curved, your phone's curved... so isn't it about time your home PC was curved too?

● It's not very curved.

But then you're not going to be sitting very far away from it. The 27in non-touch panel has a curvature rating of 4000, compared with up to 11,000 for a curved TV. The reason for having any curve is immersion: it tricks the brain into thinking the screen is bigger than it is. Stupid brain.

● The brain isn't that stupid.

Because, while it might be suckered into generating neuron-fire 'oohs' and 'aahs' about the immersion, it'll also be locking on to individual pixels. How easy is managing this feat of visual skill? Very easy, for the ATIV One 7 only has a 1980x1020 screen. This makes for a poor comparison with the 27in iMac, surely the most desirable of all-in-one home PCs, with its 2560x1440 standard or 5120x2880 Retina display.

● Comparing it to an iMac isn't exactly fair.

The ATIV One 7 will retail at US\$1300, for which a straight tax-notwithstanding conversion would be about \$1750. Which ain't iMac money. The rest of the specs bear this out: a Core i5 processor, 8GB of RAM and integrated graphics. There's a 1TB 5400rpm hard drive and a slew of USB 3.0 ports but no optical drive. But be not downhearted, for some Samsung add-ons will make the ATIV more fun to use than its specs would suggest. SideSync 3.0, for example, shows desktop notifications from your Galaxy mobile. Whoop! Get it bought!



In other Samsung news:

● Ring radiator speakers

The WAM-6500 and WAM-7500 are wireless speakers that – as is the current trend – fire music out on all sides, so that no-one is left out. The 6500 has a battery for portability; the 7500 can be affixed to a stand or hung from the ceiling.



● SUHD TV

Infuriatingly, the 'S' simply tells us it's Samsung's new high-end UHD TV, rather than standing for anything. These contain nanocrystal semiconductors – AKA Quantum Dot technology – and run Tizen OS. The results are still 4K but more 'spectacular'...

FourFourTwo

www.fourfourtwo.com

THE ULTIMATE FOOTBALL WEBSITE



**NOW ON
MOBILE, TABLET AND DESKTOP**



FIRST PLAY THE ORDER: 1886 PS4

As you abseil down the side of an airship high above Victorian London it's hard not to stop and take in the view. You are Grayson (aka Sir Galahad) of The Order: a group of smartly dressed secret agents with even more impressive facial topiary than the editorial staff of *The Chap*.

In this parallel version of the late 1800s, the typewriter isn't the height of technology. As you sneak through the ship offing guards with well-timed takedowns, you're able to communicate wirelessly with your fellow agents, override

onboard power systems using a steampunk-inspired hacking device and pick locks using the more nuanced vibration in the PS4's DualShock controller for feedback. The guns might be ahead of their time but they still feel like blunderbusses: all shock and awe in the flash and bang departments.

The problem is, developer Ready At Dawn has made the scenery so beautiful you're not allowed to damage it. Pots and pans go flying as you fight through the galley but the room itself remains unscathed.

This third-person shooter often looks as if you're playing a cut scene, with a cinematic quality that's the opposite of *GTA V* or *Far Cry 4*'s free-roaming chaos. In Los Santos and Kyrat it feels like anything can happen, whereas *The Order*'s world is so intricately created it's more like you've stepped onto a big-budget film set. Gaming's crying out for tightly scripted, well-told stories, but if you feel like you're merely the director rather than playing the heroic lead, it's in danger of making you want to shout "cut".



REVEALED XBOX RACER CELEBRATES ITS 10TH ANNIVERSARY

FORZA MOTORSPORT 6

Xbox One

It wasn't just Ford's asphalt-eating GT that was unveiled at last month's North American International Auto Show in Detroit. Microsoft took the opportunity to announce another giant of the motoring world: *Forza Motorsport 6* for Xbox One. This year marks the 10th anniversary of the series and Xbox promises big things. 'Promise' being the operative word; very little was actually announced, and even less was shown.

We'll have to wait until gaming megashow E3 in June to see it in motion – and probably until the end of the year before its release – but we do know this: Ford will feature heavily, as the gobsmackingly gorgeous Ford GT will not only grace the front cover but also be drivable in the game. It joins the Shelby GT350 Mustang and F-150 Raptor, all of which are 'first in *Forza*' releases that will appear in *FM6* before they're available anywhere else. It might be the closest many petrolheads will get to these cars, but if *Forza*'s previous form is anything to go by, it should be pretty special. Wanna see more of the cars of the future? Flip to p54.



DLC 3 TOP GAME EXTENDERS

FORZA HORIZON 2
STORM ISLAND

If the thought of *Forza Motorsport 6* (above) has greased your wheels for a bit of racing, *Horizon 2*'s first DLC pack adds a whole new island to tear up. Off-road events are the name of the game as it swaps the sunny Mediterranean coast for the rain-soaked Storm Island.

FAR CRY 4
ESCAPE FROM DURGESH PRISON

Far Cry 4's so massive it's unlikely you've finished it yet, but if you're itching for more, *Escape From Durgesh Prison* is a good place to start. You've been captured but, like all good egomaniacal villains, Pagan Min is willing to let you go if you can beat a set of challenges and do it fast.

ALIEN: ISOLATION
SAFE HAVEN

If your nerves can handle a trip back to the Sevastopol, this expansion puts you in the shoes of a new character called Hughes, who's ensconced safely in the bowels of the ship – but supplies are running out. Can you venture out and complete all 10 tasks without losing your one life?



INCOMING

MARCH

- BATTLEFIELD HARDLINE
- BLOODBORNE
- BLADESTORM: NIGHTMARE

APRIL

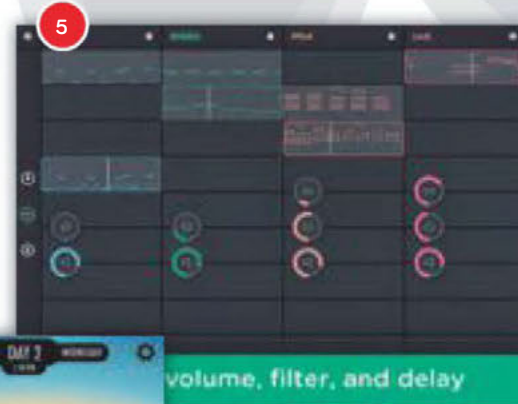
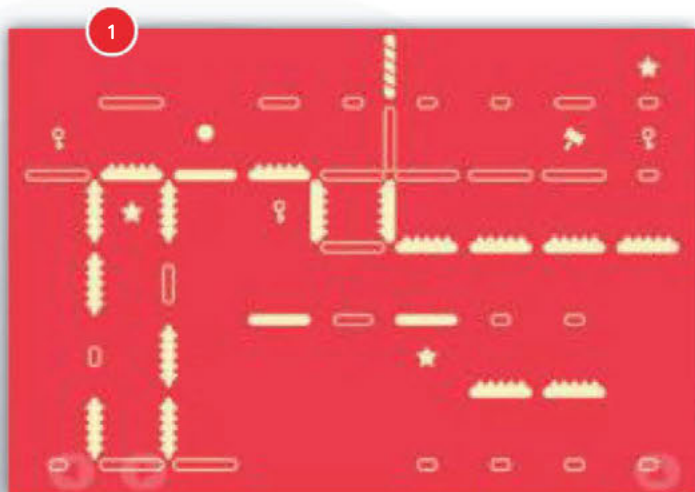
- DARK SOULS 2: SCHOLAR OF THE FIRST SIN
- MORTAL KOMBAT X

JUNE

- BATMAN: ARKHAM KNIGHT

↓ APPS

This month's mobile must-downloads



1 Jump

Free / Android, iOS

In this simple platformer, you control a ball that bounces in pre-set jumps. Which might not sound much, but once you've been entranced by its hypnotic boinking you'll grow a beard before you remember to stop playing.

2 Star Wars: Knights Of The Old Republic

\$12.98 / Android, iOS

A wedge of *Star Wars* RPG action just slammed down in the Android Play Store. All the fun of the PC version, but now you can play it at work too. Its controls translate surprisingly well to touchscreen.

3 80 Days

Free / Android, iOS

A new, Jules Verne-y adventure from the groovers who brought us the book-game hybrid *Sorcery!* That's their exclamation mark, not ours – though we are excited by *80 Days*, we are not prone to over-egging the punctuation pudding.

4 Simple Planes

\$5.98 / Android, iOS

Physics meets fun... and they get on surprisingly well in this sister app to Simple Rockets. Bodge some wings onto the aircraft of your choice, then give it some appropriately over-the-top thrust, then see if it will fly. Crash. Repeat.

5 Auxe Beat Studio

Free / iPad

There are quite a few beat-making apps for iPad, but Auxe's one of the best we've seen so far. It's simple, easy to use and well designed, and it's also powerful enough to make your own music and export it to Soundcloud, iTunes and others.

6 Jack B Nimble

\$2.58 / iOS

You jump, you whip and you marvel in this retro-hued endless runner. The sound effects and music are suitably atmospheric – there's a touch of *Castlevania* here – and the whole thing is worth the asking price.



APP SPOTLIGHT DUET DISPLAY

\$19.98 / iPad

You've got an iPad. You've got a Macbook. You've got a Lightning cable. And you've got \$19.98! You're good to go, on an adventure where you can use your iPad as a second screen for your laptop. According to the devs, the wired connection is 60fps and lag-free – even if you output in Retina display gloriousness. Mind you, those same devs also claim that a second display makes you "up to 48% more productive".

GOPRO ACCESSORIES

You shoot, you whoop and you don't droop: three new action-cam gizmos that have caught our eye



FINGER ON THE TRIGGER



Gripix Wi-Fi Trigger Handle

Doesn't it just make your trigger finger itch, seeing a big red one like that? The Wi-Fi Trigger Handle is basically an ergonomic handle for GoPro's own Wi-Fi remote, which nestles inside and pokes its LCD through a little hole. You can stick the actual camera on top, or wherever you like, and other Gripix accessories can be attached in line.

from US\$100 (\$135) / gogripix.com

SIX ROTORS OF FUN

Hexo+

Two follow-me autonomous drones completed their Kickstarter rounds in the summer: the AirDog and Hexo+. But now that we've had a chance to see both at the CES show in Las Vegas, it's the Hexo+ we're most excited about. It's bigger and more expensive, but it's got six rotors, which should make it more stable, and it's compatible with any GoPro.

US\$1150 (\$1550) / hexoplus.com

CHECK YOUR ANGLES



Removu R1

The R1's 2in QVGA screen acts as a handheld or wrist-wearable live view remote, and the company is about to launch a GoPro-standard mount cradle for it too, so you can plonk it in all sorts of useful places. In the meantime, they're crowdfunding P1, a rugged case for GoPro's LCD Touch BacPac screen accessory, meaning you can use that as a viewfinder and remote too.

from US\$120 (\$165) / removu.com

Making soundwaves

SUPERSTAR BACK FLOAT

Okay, so on reflection it wasn't smart to tell everyone you had a Monster in your hot tub. That probably had something to do with the towelling-off-and-going-home craze that swept through your party at around the same time. You should have started by explaining that the Super Star Back Float's wireless, waterproof, shockproof shell makes it ideal for a bit of social bathing. You could have continued that anyone can stream to the Back Float from their phone via Bluetooth. But they've all left now, so you might as well run a bath and stick on some Otis Redding.

US\$170 (\$230) / monsterproducts.com



Parks and recreation

ARIEL NOMAD

There are few faster road cars around a track than Ariel's Atom two-seater. But how often are you on a track? Most of the time you're on the road, festooned with other cars and pesky laws. Which is when you think how nice it would be to just smash through a gate and roar off up into the woods. And it's that kind of cerebral exercise that's brought us to this: a sporting off-roader by Ariel, with long suspension travel, chunky tyres and a beefed-up roll-cage but still a lightweight motor and no cumbersome 4WD. Instead, a 2.4-litre Honda engine drives the rear wheels through a limited-slip differential. So if you don't think you have the skills to bring it home again, best leave that forest gate unsmashed, eh?

Stba / arielmotor.co.uk

Wi-Fi coffee: get it while it's hot

SMARTER COFFEE

Everyone loves a good coffee, apart from people who don't, and from March your fantasies of a personal barista can finally be realised – either by hiring a personal barista, or by investing in this, the first app-controlled bean-to-cup coffee machine. Using the iOS/Android app, you can set the Smarter Coffee to wake you as your morning cup o' Joe reaches optimal brewliciousness, or you can have it prep you an espresso as you return home from your daily grind in the office. We'll take a double shot.

£100 (\$205) / smarter.am



PIZZA DELIVERY MAN PLAN IS A GO-GO

Gogoro Scooter

Sitba (concept) / gogoro.com



The Panasonic lithium-ion batteries have a handle for quick pitstops

An electric scooter is the perfect urban transport solution, with only two factors holding it back... namely 'electric' and 'scooter'. But two ex-HTC execs have the answer

● **The issue with electricity is...**

Where does a city dweller get it from? An increasing number of homes and workplaces have electric vehicle hook-ups, but it's still a tiny proportion. Are you going to run an extension lead out of your first-floor flat window

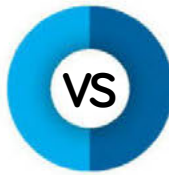
down to the street? No, say Taylor and Luke of Gogoro. You're going to pay them a subscription and hot-swap your battery at roadside Gogoro GoStations. Smartphone apps will help you find the nearest GoStation, and the founders say the system will be smart enough to keep the stations efficient.

● **Which leaves 'scooter'.**

A word with negative associations in the minds of most Brits, it speaks of tracksuited teenagers with holed exhausts. Electric scooters have yet to find a hero, despite such varied efforts as BMW's expensive

C-Evolution and Yamaha's toy-like EC-03. So Gogoro designed its own. They've chosen their friends – Panasonic batteries, Philips LED headlights, Maxxis tyres – but designed a lot themselves. Hence: 6400W power, 0–48kph in 4 seconds and a max speed of over 97kph. At urban speeds, it should have a range of about 97km. Crucially, because the batteries are part of the subscription deal, the entry cost should be within reach of us norms – though pricing is yet to be announced. This could be the electric scooter revolution we've all been waiting for.

YOU'LL PAY A SUBSCRIPTION AND HOT-SWAP YOUR BATTERY AT ROADSIDE STATIONS



Touchiest Chromebook yet HP CHROMEBOOK 14 TOUCH

You don't buy a Chromebook to impress your friends. Unless your mates are the type who are impressed by subtle refinements of portable computing productivity-per-pound. But were you in the market for a laptop running Google's lightweight, cloud-based Chrome OS, yet were determined to get one packing some heat, you'd get this one. It has a Full HD touchscreen, as well as double the RAM (4GB) and storage (32GB) of the original HP Chromebook 14. The only trouble is, you'd be paying the kind of money that could well get you a 'proper' laptop. Or so your unimpressed friends will say.

[US\\$440 \(\\$595\) / \[hp.com/sg\]\(#\)](#)

Biggest Chromebook yet ACER CHROMEBOOK 15

Whether or not you bought the HP to impress, its enhancements over a standard HP Chromebook 14 are not immediately apparent to an onlooker. But this Acer, with its ostentatious 15.6in screen – the biggest of any Chromebook yet to grace the crust of our planet – screams its superiority to the sky. Like the HP, it's a 1080p screen, and it has Intel hardware in the form of either Core i3 or Celeron processors – with varying RAM and storage to suit. It's not as light as 'books of yore at over 2kg, but the Acer is aimed at people who want to get stuff done, not just impress their friends.

[from US\\$250 \(\\$340\) / \[acer.com.sg\]\(#\)](#)

START MENU The month's best concepts, start-ups, crowdfunded projects and plain crazy ideas



Robot chef

COOKI

[sereneti.com](#) / [from US\\$400 \(\\$540\)](#)

What do you get if you cross a robot arm with a motorised tray of ingredients? Dinner, dinner, dinner... Batman! No, wait. What does Batman's mum say when she sees an invention that automatically cooks and stirs the supplied ingredients? "Holy smoke!" No?

Why did Batman spend all his time picking recipes for Cooki to attempt? Because there were no reports of anyone Robin. Oh, forget it.

Status

Seeking funding (Indiegogo)



Got any gum?

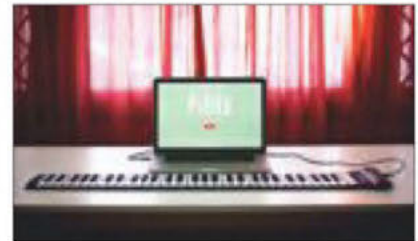
MINT

[breathometer.com](#) / [US\\$150 \(\\$205\)](#)

Humans have been surviving with the cupped-hand method since the development of social groups. But now we have Mint, a Bluetooth LE widget that measures volatile compounds that might indicate poor health as well as pongy breath. It also reports on hydration levels, although the paranoia that drove you to test your breath in the first place might mean you need to drink more water.

Status

Funded (Indiegogo)



Key-bored

PIANU

[playpianu.com](#) / [from US\\$45 \(\\$60\)](#)

In school music lessons the keyboards, with their whizzy sound effects, were cool. Then we got older and guitars signified Dimebag Darrell and beach parties. You can't plug a keyboard in at the beach. But times have changed (again), guitars are for hipsters and we're fickle, so we're more into this roll-up midi keyboard and its browser-based, *Guitar Hero*-esque tutorial service. For now...

Status

Funded (Kickstarter)

DO ACTIONS PER MINUTE (APM) SPEAK LOUDER THAN WORDS?

TEIN HEE SEOW EXPLAINS WHY GAMERS SHOULDN'T BE SO HUNG UP ON LIGHTNING SPEED REFLEXES



Tein Hee Seow
online editor asia

What is APM?

APM is a measurement of how fast a player selects units, clicks on locations, issues orders and many other micromanagement actions built into real-time strategy games such as Starcraft II or Dota 2.

In theory, when you perform more actions within a minute than your opponent, there is a likelihood that you'll be able to react to his moves faster. More importantly, players can quickly recover to perform a counter assault on their enemies territory once their forces are depleted from the previous attack.

Professional gamers who are placed on the top rung of the tournament ladder usually have a high APM, hovering between the 200 to 300 APM range. If you're up against fast-hitting gamers who can breach the 400 mark, be prepared to weep in despair.

How do you improve APM?

Practice, practice and more practice. Every single action you do is built on the constant pounding of

the keys, clicking of the mouse and fervent darting of your eyes as you react to each and every move from your opponents.

Of course, there are other measures to improve your APM. Having a particularly good mouse with high dots per inch (DPI) would improve the accuracy of your clicks. With keyboards, mechanical types tend to fare better, what with the obvious tactile feedback and quick responsiveness of each key. But if you're moving around with a gaming laptop, the keyboard option isn't exactly a great one. Not unless you are using a system with an integrated mechanical keyboard, and by that, there's only one in the market – the MSI GT80 Titan.

But is APM really the ultimate skill set?

The short answer is, no. Universally speaking, most professional gamers who have a deep understanding of the game would usually have a high APM. But not every gamer with a high APM can truly understand the nuances of the game. A seasoned veteran would be able to break through a barricade by selecting the right units that'll do insane amount of damage to the opposing force. On the contrary, no amount of tapping or clicking will save your units if they're facing a Zerg rush. Or for that matter, if they've muddled up the building order, constantly clicking on the structure won't speed up the build process.

So why do people still favour APM?

Simple – it's a byproduct of a capable gamer. And the easiest way to measure yourself against an opponent. Granted, APM isn't a definitive indicator of a person's skill, but it lets you gauge how tough

your enemy can be. After all, you'll want to play a fair match, and come out feeling not so depressed from a massive burn.

But don't get disheartened if you can't raise your APM in a short period. Watch more live streams of major tournaments, learn the strategy and practice on your own. Fact: having a high APM puts you on the radar, but if your strategy isn't sound, your bases will belong to your opponent in mere minutes.

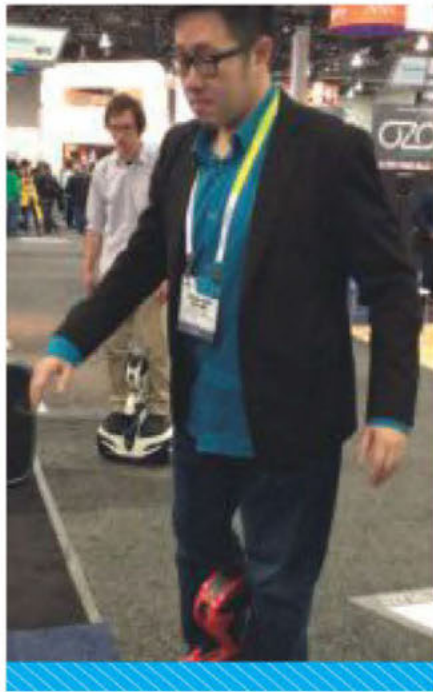




Tein Hee Seow
online editor asia

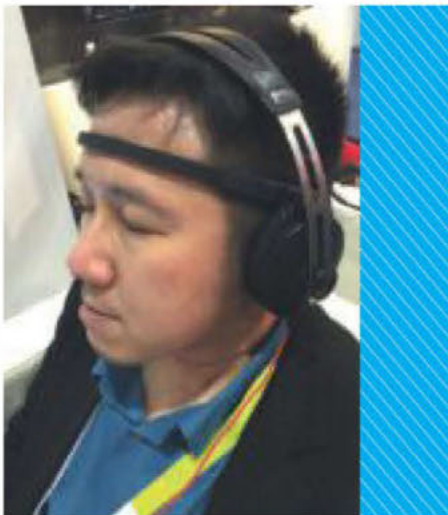
EXPERIENCING THE FUTURE AT CES 2015

DRONES. INTERNET OF THINGS. MORE WEARABLE TECH. OUR INNER CHILD JUST COULDN'T RESIST PLAYING WITH THESE NEW-FANGLED GADGETS AT THE BIGGEST TECH SHOW



Inmotion

It looks like a Segway. But we were so wrong when we stepped on the Inmotion SCV. The two-wheeler relies on your body posture to move in both axes. Lean forward, and you'll advance. Push the body weight to the rear and it'll reverse. Turning is simple if we used the handle. Remove it, and we spent a good amount of time leaning our weight on one leg to make the turn. We thought this was hard, until we saw the unicycle version. A voice in our head told us to stay away from that. Especially when we saw a few people stumble while they tried it.



Muse brain sensing headband

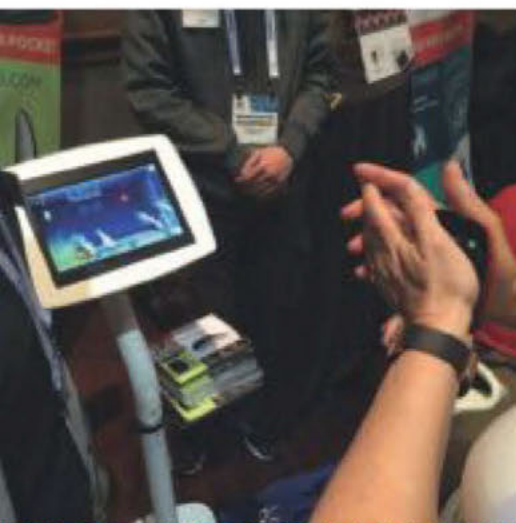
There's nothing creepy about wearing a headband that detects your brainwaves. No, seriously. This contraception isn't as insidious as you might think - it simply senses your mood and designs exercises to relax the mind. Our session required us to calm the roaring waves we hear, simply with the power of our mind. Very much like Professor X, and we probably could have done more if we were bald.

IF YOU WANT YOUR KIDS TO BECOME TOP-NOTCH COMPUTER GEEKS, YOU GOT TO START THEM YOUNG



Razer OSVR

Can anyone be bored by virtual reality? No sir, because when we got a short 10-minute session with Razer's OSVR, it was quite an experience. Okay, so it's no mind-controlled VR headset, but its motion gesture control is close enough. Which, by the way, adds on to the already immersive experience when we donned the headset and moved our head frantically in search of floating demon heads to hurl fire or ice balls at.

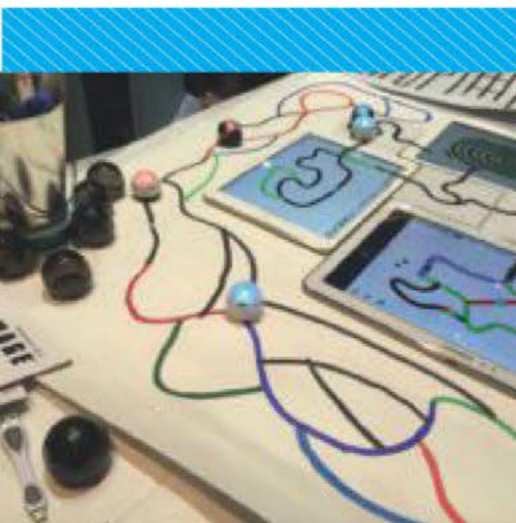


Tao Wellness

Hey, pressing your palms together on a piece of plastic looks pretty easy, right? Wrong. We can blame the jet lag or 30-hour trip to Las Vegas that absolutely floored us when we failed to perform the isometric exercises well enough on the Tao Wellness. But we've also seen perfectly fit folks, pressing with all their might on the plastic piece, who couldn't clear Jetpack Joyride. And yes, it supports some games on your smartphone, so no excuse to not play and exercise at the same time.

Ozobot

If you want your kids to become top-notch computer geeks, you got to start them young. And from what we've seen, the Ozobot is right on track. These tiny little things teach kids the basics of coding, with basic instructions such as following a specific coloured line, named OzoCodes, that associates specific movement for each colour. Advanced coding is also provided through the accompanying software, which tutors kids to program the Ozobot to perform more actions such as dancing to a specific tune.



THE INTERNET OF THINGS AT CES 2015 ISN'T PARTICULARLY EXCITING (YET)

THE HOMES OF THE FUTURE LEFT TEIN HEE SEOW BOTH EXCITED AND, UNFORTUNATELY, SLIGHTLY DISAPPOINTED

You're home. The house knows you're back, switches on the light when it senses your wearable tech is within proximity. At least, that's what Misfit Wearable's co-founder Sonny Vu asked me to imagine in the near future.

Sounds incredibly awesome – and very real too. Having spent the last four days at CES 2015, I'm still in awe at the automatic roller skates, fully immersive virtual reality systems and mind-bending technology showcased at the annual tech convention.

But the biggest buzzword at this year's CES isn't gadgets nor wearable tech. Three words: Internet of Things (IoT). Not a new concept, since Intel, Qualcomm and many other companies have been banging on this door for years.

A fragmented IOT

CES 2015 was where the spotlight landed squarely on the future of connected homes, showing how multiple devices will be talking to each other. Cars that can self-park and controlled by smartwatches, home appliances that'll prepare for your return, smart home cameras that know who's at home – these are quite real scenarios.

But for all the potential these things hold, there's one big caveat – integration. LG is working with Audi, having the latter's cars using LG's webOS-powered smartwatches as a control extension. BMW and Samsung are doing the same, except it's Tizen that's working the remote magic here. See what I'm getting at here? It's the same old story, one that's very similar to your smartphones – a fragmented platform.

Problem solver (not)

Some might argue that each company needs to be different, locking in exclusivity to make their products more appealing. I understand the logic behind it, but that

doesn't mean I accept the arrangement.

For far too long, there's never been a unifying platform that links my multitude of devices together. The Internet of Things is supposedly designed to solve this problem, but from what CES 2015 has shown, it's starting to create more first world problems for me.



The future is still bright

Perhaps it's just pure wishful thinking on my part that there'll be only one device to rule them all, and in the future, bind everything together. For all intents, you'll still have to choose where your loyalties lie for your future connected homes, IoT and what not.

Nonetheless, CES 2015 is still an eye-opener for me and didn't cease to amaze me even though it isn't my first visit to the geek paradise. On the bright side, the days spent at the Sands Expo and Las Vegas Convention Centre, trying some crazy gadgets for geeks, were well spent.



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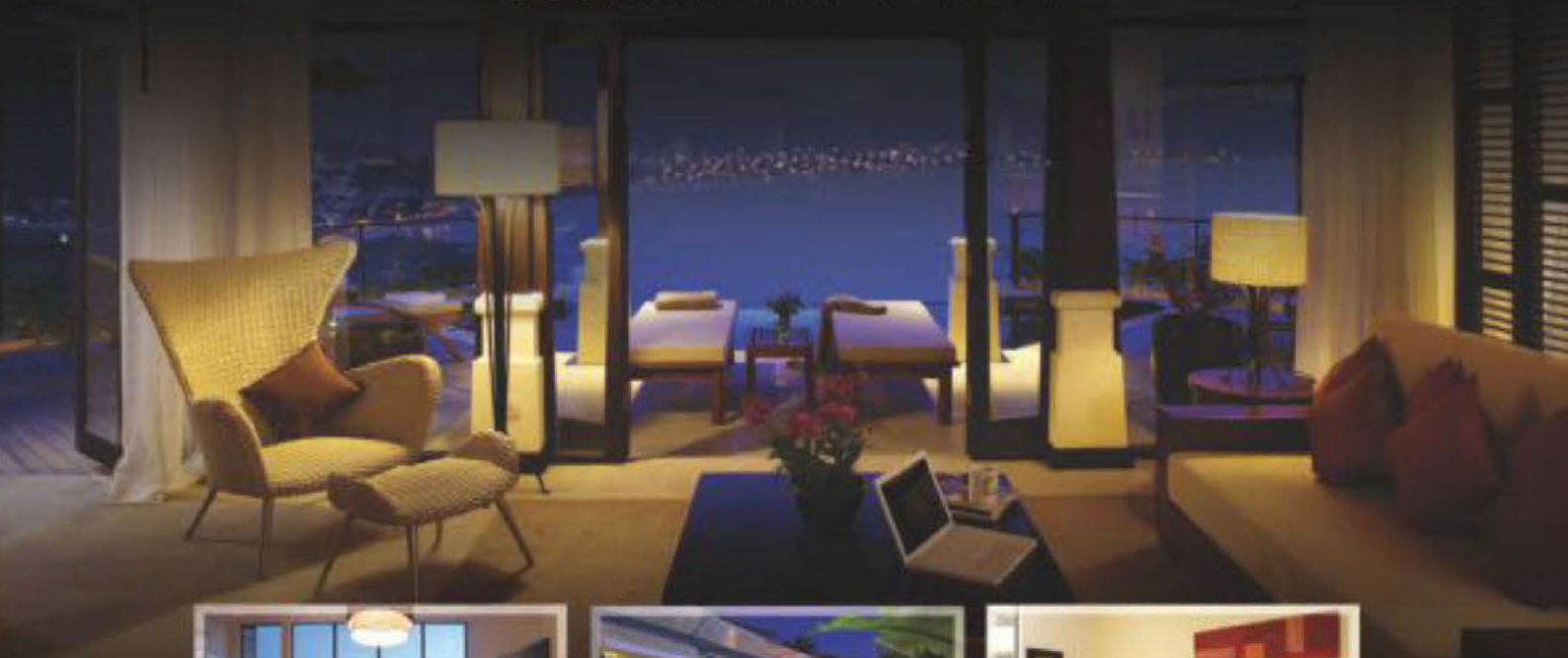
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JUST IN TIME FOR CNY ULYSSE NARDIN CLASSICO GOAT

Spoa / ulysse-nardin.com

Even though they're based in Switzerland, every lunar new year sees Ulysse Nardin release a new Classico timepiece featuring that year's Chinese zodiac animal. This coming model really gets our goat, but in a good way. It might not be as grandiose as the dragon model from a few years ago, but the Classico Goat is still mighty impressive with the intricate enamel champlevé engraved goat on its face. It's limited-edition only though, and you won't be surprised to hear that only 88 will be available worldwide.



ROTATION SENSATION GIRARD-PERREGAUX TRI-AXIAL TOURBILLON

Spoa / girard-perregaux.com

The epitome of classic watchmaking is undoubtedly the tourbillon, and longtime makers Girard-Perregaux are understandably very proud of their fantastically complex Tri-Axial Tourbillon. All that complication isn't just for show either – the watch achieves absolute timekeeping precision by countering gravity's effect on the movement. Now available in white gold, the Tri-Axial rotates on three axes as its name suggests, with a new dial that showcases even more of this mechanical poetry in motion.

BIG BANG THEORY HUBLOT BIG BANG TOURBILLON

from \$165,900 / hublot.com

There's something hypnotic about watching a tourbillon in motion, and now for the first time, you'll be able to see it on a Hublot Big Bang. Made by Hublot's very own team of watchmaking experts, the new Big Bang features a minute tourbillon with an added barrette on the dial side to add stability, while a power reserve indicator shows users how much of the 5-day power reserve is left. If the classically beautiful titanium version doesn't strike your fancy, there's always the flashier King Gold version is available for just about \$30,000 more.





STRANGERS TO OURSELVES

Modest Mouse

It's been a long time since the American band released a record, eight years to be exact. But if first single *Lampshades on Fire* is any indication of how good the album is, the wait is worth it. Very reminiscent of classic Modest Mouse with its punchy lyrics and contagious beat, it's a winner in our books.



AUREATE GLOOM

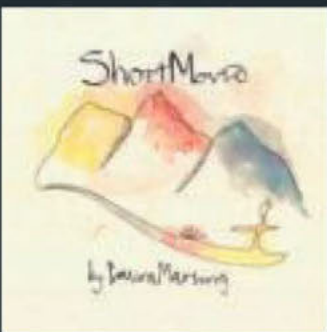
Of Montreal

Frontman Kevin Barnes describes the upcoming album as an "emotionally exposed LP" which is great because "the best albums are those that help people connect with an artist on a deep, human level and that do so without too much artifice or evasiveness." Be prepared for all the feels and some truth when you put this on then.

REBEL HEART

Madonna

It's the Queen of Pop's thirteenth album to date, but seniority in the world of music doesn't count for anything these days given that most of this album was leaked way before its time. In the end, six of her tracks had to be released on iTunes shortly after. If you're a huge fan, head on over to download the tracks - legally.



SHORT MOVIE

Laura Marling

Everybody loves the songstress with her lighthearted tunes and it shouldn't be any different this time around. Inspired by her time in the US and the resulting emotion of being "desperately lost in translation", *Short Movie* is a thought-provoking tune set to a stirring backdrop of riffs and strings.



THE DAY IS MY ENEMY

The Prodigy

Suffering from The Prodigy withdrawal after Future Music Festival Asia? Fret not, the group is back with a ballsy new album. Hard and unapologetic, their title track makes a resounding first impression. In fact, the band has set pretty high expectations by stating that the album will "wipe the floor" with the current DJs out there.



26
MAR

THE GUNMAN

PTSD, what a curse. A former soldier, played by Sean Penn, wants out of the military game in order to pursue his lady love. As you can expect, things aren't quite that simple and the organisation he works for has other plans in mind. In order to escape their clutches, he's forced to go on the run across Europe.



CHAPPIE

Directed by Neil Blomkamp of District 9 fame, Chappie is a science fiction film that makes robots seem a lot less scary than Elon Musk said they would be. Chappie is a robot built to feel, but as you can expect, life in the future is not rainbows and butterflies for artificially intelligent life and he must overcome the forces that want to destroy him.

5
MAR



CINDERELLA

Yes, you're probably familiar with the fairytale, but have you watched the live-action adaptation? Starring Lily James, Helena Bonham Carter, and Richard Madden, this version is not the one you were told when you were a kid. But we won't spoil it for you. Just be prepared for a few deviations from the story.

12
MAR

THE LAST: NARUTO THE MOVIE

The tenth movie to date is set two years after the Fourth Shinobi World War. However, there's always trouble on the horizon. And this time, it's in the form of the moon threatening to crash-land on earth. Made to celebrate the 15th anniversary of the famous franchise, true Naruto fans can't miss out on it.

12
MAR



KIDNAPPING FREDDY HEINEKEN

That last name should ring a bell with many. Based on a real event, the film follows the kidnapping of the famous Dutch brewer - from beginning to end. Bit of trivia for you, it's the largest ransom ever paid for an individual. Feel free to throw that knowledge out there. Stars Anthony Hopkins as Freddy himself.

19
MAR

THE PRAWN STAR

WESTERN-STYLED SEAFOOD ZI CHAR

21 Duxton Hill, Singapore 089604

Tel: 63233353

hookup@prawnstar.sg

The 36-seater restaurant exudes raw charm with its stripped down decor. Aiming to replicate the grunge and grit of a back alley, its attention to detail can be seen in the usage of reclaimed pallets for dining tables and refurbished table legs. The place prides itself on serving only the freshest catch each day, you won't get any nasty frozen seafood here.

If you're planning to get something to share for your starters, you absolutely have to pick the Sriracha Caramel Popcorn (\$8). These fluffy nuggets are coated in a spicy sweet blend of sriracha and caramel, with the latter giving a caramelised flavour to bring out the sweetness of the piquant coating. The King Prawns on Vermicelli Claypot (\$32) pays tribute to the famous Thailand one. Cooked in the claypot, the moist and flavour-laden vermicelli sits buried under the generous portion of large prawns after soaking up their juices. There's a crab version too, if you aren't in the mood for prawns. The Grilled Moreton Bay Bugs (\$24) were perfectly cooked, tender and easily extracted from their shells. The Prawn Star doesn't shy on the black pepper butter which accompanied the fresh bay bugs so well, you can almost taste the sea. If you're still feeling peckish, try the TPS Grilled King Prawns in Signature Kimchi-Miso Butter (\$26). The prawns are first grilled then finished off over the fire in the claypot. Sprinkled with sliced chillies and spring onions, they're meaty, flavourful and smack of umami. We recommend using your hands to get at every bit.

The place also serves great cocktails and craft beers to wash your food down with. We tried the Sugar and Spice which came with a chilli padi garnish which is a little prelude to what you can expect. Topped off with lime foam, the cocktail came with a heady punch of spice. For dessert, we tried the Banana Fritters with Salted Caramel and Vanilla Ice Cream (\$10). The wait we had to endure was worth it, the warm nut-crusted fritters complemented the vanilla ice cream perfectly. A drizzle of salted caramel sauce topped the flavours off perfectly.



STUFF TO TRY

Sriracha Caramel Popcorn \$8
Savory sweet popcorn with a touch of spice

Not Your Typical Fish (Skin) and Chips \$9

Lightly fried fish skin and potato slices served with a vinegar dip

TPS Grilled King Prawns in Signature Kimchi-Miso Butter \$26

Grilled meaty prawns in an addictive savoury sauce served with baguette slices on the side

Island Romp \$15

Refreshing gin-based cocktail with cucumber and lime

OPENING HOURS Mon – Fri: 12pm – 2.30pm | Mon – Thu: 6pm – 10.30pm | Fri – Sat: 6pm – Late

STUFF SAYS OBSCENELY DELICIOUS, YOU SHOULD DEFINITELY GET YOUR HANDS DIRTY HERE



OUR MONTH

What the past 31 days have brought us by way of geekery



I PLAYED VIRTUAL VOLLEYBALL...

with an Oculus VR headset and Intel RealSense 3D camera. I probably looked like a fool, waving my hands madly in the air to hit a virtual ball to someone miles away. But it's really fun, and coming from someone who's growing horizontally, virtual gaming is right up my alley.



Tein Hee Seow
online editor asla /
virtual athlete,
real-life slob



I FELT THINGS THAT WEREN'T THERE

At CES, I tried out Ultrahaptics, which combines Leap Motion with ultrasound so you can touch streams of virtual bubbles that burst on your hand, or wave your way through a 'force field'.



Stephen Graves
online deputy editor
/ Johnny Mnemonic



I TRIED OUT VR HEAD-PHONES...

...only to discover that they're actually more like 3D video goggles, owing to their 45° field of view. Still, the Avegant Glyph's tech — which reflects images directly onto your retinas — means they're small, and they look amazing.



Will Findlater
editor-in-chief /
goggle boxer

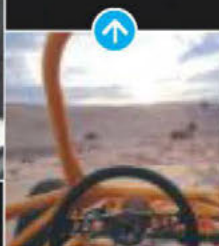


I SAW THE FUTURE OF 3D PRINTING

...and it is absolutely tiny. While standard 3D printers are limited to chunky plastic, the OWL MC-1 has a resolution of one micron — about a tenth of the width of a human hair. It's also rather pricey, but that's tomorrow-tech for you.

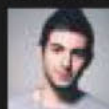


Will Dunn
editor / wig printer



I WENT SURFING USA

I tried sand-dune bugging in the rock-scattered Mojave Desert just before CES kicked off in Vegas. My innards were shaken, my brain was stirred, but I still came out with all limbs intact — despite getting very lost and stuck in the sand a few times.



Esat Dedezade
staff writer /
still sandy



I COOKED WITH SCIENCE!

I'm not boasting: my ribs recipe is legendary. But the arrival of an Immersion Circulator demands cooking a batch *sous vide* and then comparing the two. The vacuum-sealed meat is currently halfway through a 36-hour bath.



Tom Parsons
reviews editor /
meat bather

YOUR MONTH **MAR**

Have a musical march this month



SING JAZZ

5

SINGAPORE INTERNATIONAL JAZZ FESTIVAL

If you're all about that jazz, this four-day celebration of the genre should float your boat. Featuring both international and homegrown acts, it promises to be a fun time.

Event Plaza at Marina Bay Sands

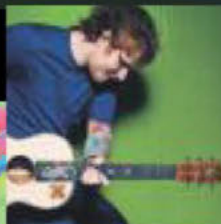


13

FUTURE MUSIC FESTIVAL ASIA

The two-day event will see scores of DJs and revellers crossing land and sea to party. Featuring Fatboy Slim, The Prodigy and Afrojack, this year's event proves to be bigger than ever.

Changi Exhibition Centre

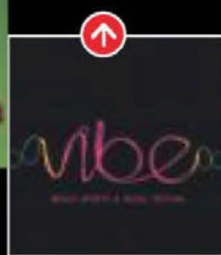


14

ED SHEERAN LIVE IN SINGAPORE

For the first time ever, Ed Sheeran graces our shores with his Grammy-winning presence for only one night. Better hurry before tickets sell out.

The Star Theatre



21

VIBE BEACH SPORTS AND MUSIC FESTIVAL

Whether it's volleyball, soccer or even Zumba you fancy, Vibe has it all. And if you're not tired out from the day, stick around for a night of dance to international DJs.

Siloso Beach Sentosa



21

BEAUTY AND THE BEAST

From the same people behind The Lion King comes another winning Disney classic. It's like what you remember from your childhood, but with better songs.

MasterCard Theatres at Marina Bay Sands



28

EARTH HOUR

Pledge your support for an environmental cause along with the rest of the world. If Spiderman was last year's ambassador, we can't wait to see what this year's event holds.

REVIEWS, FEATURES, LATEST NEWS, OPINIONS AND LOADS MORE.

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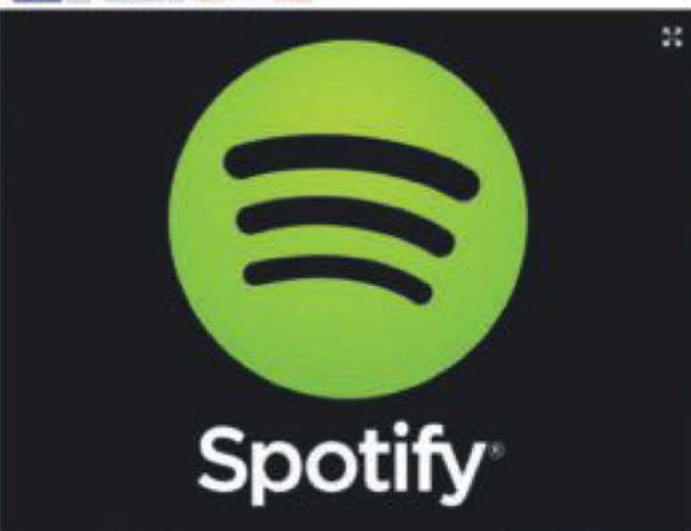
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Surrender your iPhones, trade them in for a Xiaomi Mi Note or Mi Note Pro

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For years, Xiaomi's been a mobile underdog, trying to compete for market share with its cheap but spec-filled devices. But in more recent times, the Chinese company's been successful

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Microsoft won't be using the official "Windows Phone" moniker going forward, but that's a good thing - because Windows 10 is designed to work on all platforms, and a lot of the apps and interface elements will be shared and similar between devices

Further leaks of the HTC One (M9) suggest a different look

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by [Chessa Lee](#) Mon, 01/26/2015 - 03:54 [Follow @chessalee](#)

The hunt for the 3G/4G dead zones in Singapore begins

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by [Hafsan Osman](#) Mon, 01/26/2015 - 03:20 [Follow @hafsanosman](#)

Singapore might be a little dot on a map but that doesn't mean our purported islandwide mobile coverage is the most spectacular.

Believe it or not, there are plenty of dead 3G/4G zones in our little red dot. We know this issue gets on your nerves just as much as it does ours, and that's the only reason we've shared with you where they

Samsung Galaxy S6 preview

[Jump to verdict](#) | [S\\$TBC](#)

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by [Sam Keldsen](#) Wed, 01/21/2015 - 09:18 [Follow @samkeldsen](#)

We're big fans of Samsung's current flagship phone, the Galaxy S5. We even awarded it a full five stars in our review. But that's not to say it's perfect, and it's certainly not the best smartphone around – in fact the S5 sits a fair old way down the chart when it comes to [our best-rated](#)

The 15 best sci-fi movies on Netflix

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Stuff's Ultimate Guide to Google Android

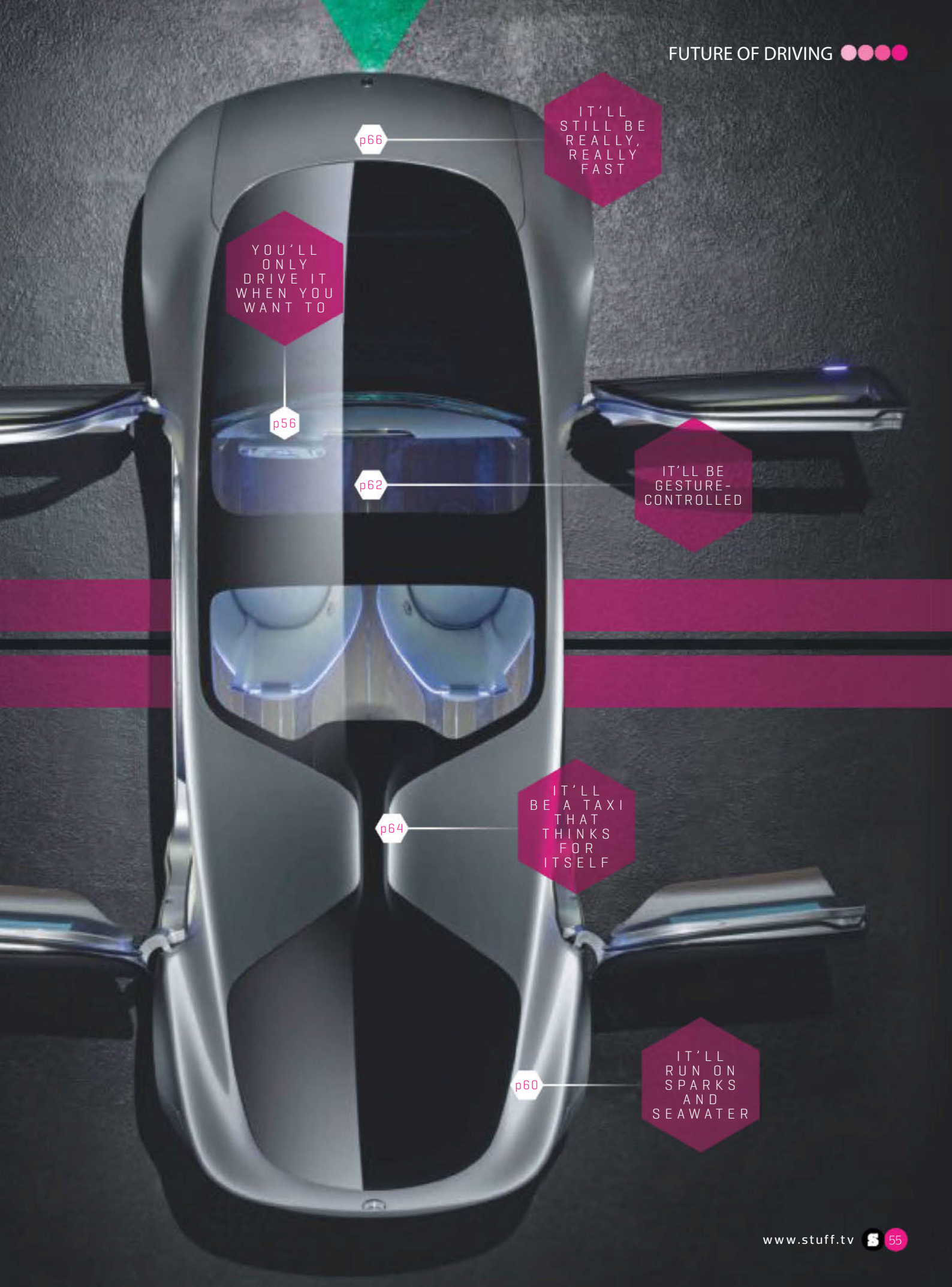
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Stuff.tv

WHERE WE'RE GOING WE'LL NEED ROADS

The machine that made the modern world
is about to remake the future, and this is how:
five predictions for the car of tomorrow

Words: Will Dunn



p66

IT'LL
STILL BE
REALLY,
REALLY
FAST

YOU'LL
ONLY
DRIVE IT
WHEN YOU
WANT TO

p56

p62

IT'LL BE
GESTURE-
CONTROLLED

p64

IT'LL
BE A TAXI
THAT
THINKS
FOR
ITSELF

p60

IT'LL
RUN ON
SPARKS
AND
SEAWATER

ONE

YOU'LL ONLY DRIVE IT WHEN YOU WANT TO

Fully self-driving cars are a way off, but 'piloted' driving means you drive the fun stuff, then let the car do the work on the boring bits

FRICKIN' LASER BEAMS

The Prologue also sports Audi's new laser headlights, which offer twice the visibility when used as high beams.

HANDLE CAREFULLY

No, they haven't forgotten the door handles: just touch the right spot and invisible sensors will pop the door open.





AUDI PROLOGUE

While many concept cars don't have working components or even engines, the Prologue is a real, driveable taste of the luxury two-door A9 that will soon top the Audi range. A 605bhp, 4-litre V8 pushes the Prologue up to 60 in a blistering 3.7 secs, but once you've had your fun with its ferocious power you can press a pair of buttons on the steering wheel and let the onboard AI deal with the motorway traffic.

This is what's known as piloted driving: it's not a fully autonomous Johnny Cab that can tool around entirely without a human – though it can, thanks

to a partnership with LG, be hailed over short distances by a smartwatch. It's a further evolution of technologies that are already available, such as automatic braking and lane detection. Pairing a bonnetful of sensors with a bootload of computing power, the Prologue learns about its surroundings and updates its brain via an always-on cloud connection.

And the techfest doesn't stop there: inside the car there are four bespoke high-res touch displays, which replace all the dials and buttons. There's even a curved touchscreen, used to control media.



Cruise

This is the first aftermarket robo-drive kit. With a sensor pod that looks like an aerodynamic Kinect on the roof and a computer in the boot, the Cruise RP-1 will add an autopilot to control your steering and speed in an Audi A4 or S4... but only if you live in California. Still, it's a start. getcruise.com



TESLA AUTOPILOT

As the company that has done more than any other to push car-tech forward in the last few years, it's not surprising that Tesla is champing at the bit to turn its swanky electric cars into swanky self-driving electric cars. Founder Elon Musk announced in October that every new Model S would ship with the sensors and firmware enhancements to effectively drive itself on the motorway. Lane Keep Assist (the car auto-steers to hold its lane) and Speed Assist (the car auto-accelerates and brakes) are now active on every new Model S, and more advanced features, such as the car autonomously coming to meet you at the front door, are to be added as software updates.



BOOT LOADER

The PC in the Prologue's boot performs 8 billion operations per second while driving, and learns about its surroundings.



I RACED AGAINST A ROBOT – AND LOST



TOM PARSONS
REVIEWS EDITOR

On a dreary Wednesday morning at the Ascari racetrack in southern Spain I meet Bobby, one of two driverless Audi RS7s that are, but for some go-faster graphics and a boot computer, standard production cars. Bobby's driving processors are contained in a box that's little bigger than a PS4, and without coaching he doesn't know what to do on the track, so the engineers drive him a few laps to give him a feel for the boundaries, then he's ready to take me for a spin.

Bobby is not slow off the line, cautious on the brakes or timid through the corners. As we race towards the first chicane I pray that he won't

do a Windows Vista and bug out right when he should be hitting the brakes. As it turns out, he leaves it far later than I'd have the *cojones* to, then hammers the brake hard enough for the car to squirm as its not insignificant weight shifts to the front, but with some very quick adjustments to avoid skidding.

Knowing a rain shower was on the way, Audi's engineers dialled the robo-RS7 back a little before we set off, but Bobby is still terrifyingly fast – swinging into corners with no regard for the lunch I've just eaten and accelerating as if jabbed in the backside with a hot poker.

The lap is completely automated – the engineer sitting in the driver's seat holds a kill switch just in case, but it's entirely Bobby's doing. I feel like I've been driven by

a human racing driver, one trying hard to scare the tapas out of me. And now I have to try to beat his time.

Inspired by my robotic rival I try to brake hard and late, but my human safety protocols won't let me take it to quite the same limit. I cross the line, exhausted, in 2mins 22secs – two seconds slower than Bobby. I'm no racing driver, but I wasn't slow around Ascari. There were others present who did beat the robot, but only just.

Later, an engineer tells me I should try racing Bobby's brother, Ajay. Despite being identical cars with identical hardware, software and mapping, they have different personalities – one drives more aggressively than the other. Spookily, despite a huge amount of expertise, they don't know why.

1 SUPER NAV

The RS7's GPS is 100 times more accurate than the one in your car. It can detect deviation from the line by as little as a centimetre.

2 FAST COMPUTER

The RS7 has driven with precision at speeds of up to 241kph, and in 2010 a human-free Audi TTS drove the Pike's Peak challenge.

3 SENSOR ADVENTURE

Infrared and ultrasonic sensors, 3D cameras, radar, video cameras and collision detection give the RS7 six senses.



Project CARS
Yes, it is fairly difficult to get hold of a semi-sentient car and a team of skilled engineers for your weekend racing, but you might as well train up just in case. **Project CARS** offers the chance to race AIs on painstakingly realistic tracks and it even supports virtual reality displays. projectcarsgame.com



SPIRIT CHASER

The 'ghost car' is something you're probably familiar with from games, giving you a transparent pace-setter based on your previous laps. A concept design by Jaguar Land Rover brings the ghost car to real roads, via the magic of AR. Using a windscreen that's also a transparent display (like a larger version of the heads-up display found in the BMW i8), a virtual car is made to appear on the road ahead, complete with a 'follow me' sign for faultless navigation. We'd rather use it to improve our lap times, though.

It also begs the question of what other game tech could be applied to real-world tracks. Could *Forza*'s 'Drivatar' function, which creates a racing AI based on your driving patterns, be used to imprint an A7 with an F1 driver's personality?

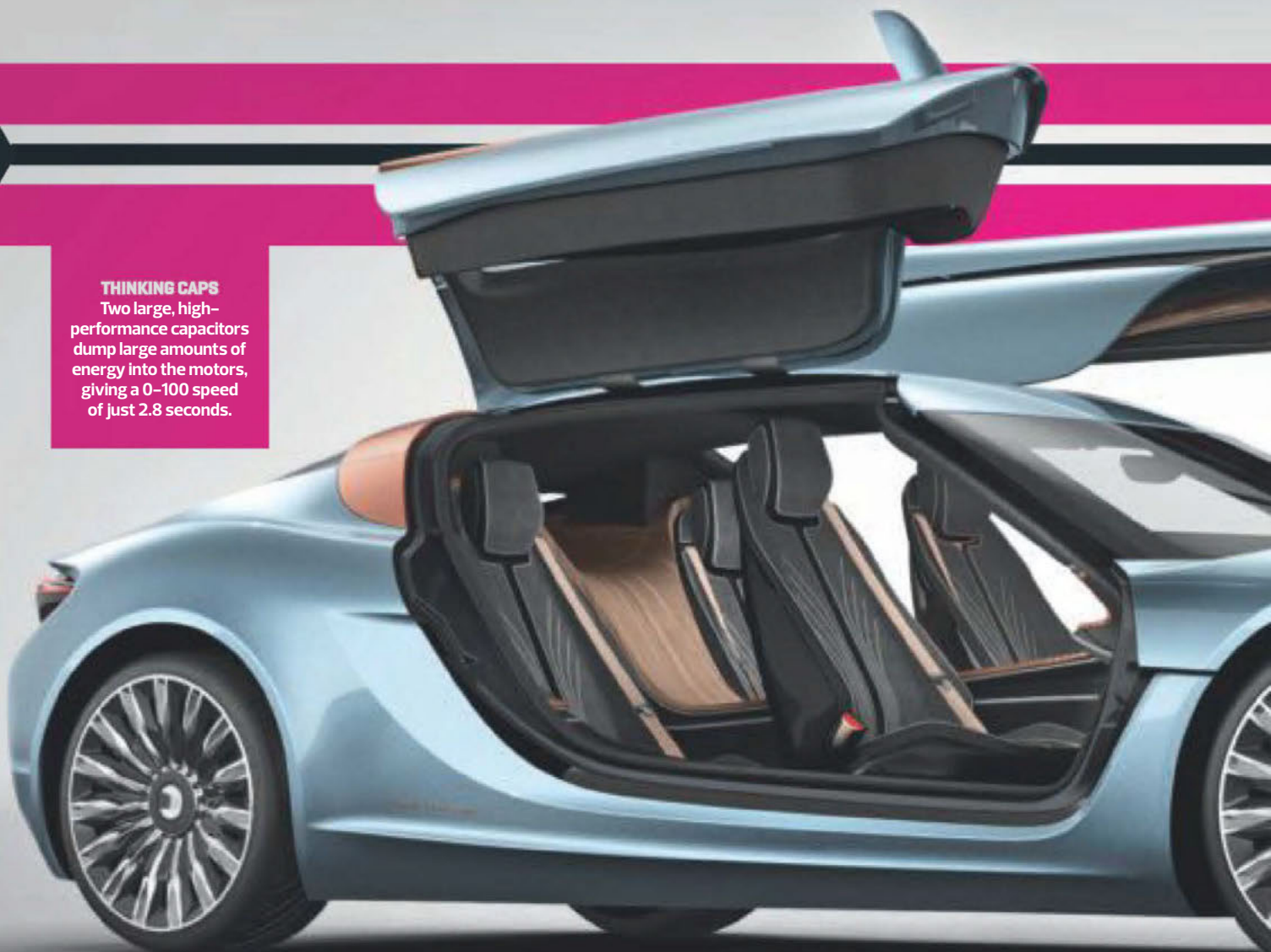
TWO

IT'LL RUN ON SPARKS AND SEAWATER

As the world realises another 30 years of fossil fuels might not be the greatest idea, new power sources are jostling for a place on the starting grid

THINKING CAPS

Two large, high-performance capacitors dump large amounts of energy into the motors, giving a 0–100 speed of just 2.8 seconds.





NANO FLOW CELL QUANT

Don't fill your Fiesta with 'the power of the ocean' — you'll corrode your petrol tank and your carburettor will get blocked by a mackerel. Only the Quant can draw power from seawater — although 'saltwater' is accurate, as we're guessing they don't go to the beach to power up this gull-winged concept. There's a lot to like about this four-seater, from its curvy wooden interior to its Android navbrain, but the real magic is its battery.

For electric cars to take over, they need range. Tesla is looking to solve this by replacing petrol

stations with its Superchargers, but NanoFlowcell's battery claims a range of up to 600km. The technology for redox flow batteries has been around for a while, but so far no-one has turned it into a viable power source for a car. If the Quant succeeds, it could usher in a new era of electric cars.

Flow batteries are powerful, but unlike lithium-ion batteries, they don't wear out after a few years of being recharged. They are eco-friendly, can be made from cheap materials, and you can fill 'em up like a petrol tank.

GET
THE
TECH
NOW

Kraftwerk
We've seen fuel cell chargers before, but they rely on bespoke hydrogen fuel cartridges that are expensive or difficult to recharge. The Kickstarted Kraftwerk charger runs on lighter fluid, turning it into a 2W current that will recharge an iPhone 11 times from one filling. **US\$100 (\$135) / hellokraftwerk.com**



HONDA FCEV

Another alternative to lithium batteries — and one that many more companies are banking on — is the use of fuel cells. The FCEV's small, power-dense cell offers an estimated range of around 483km, but it doesn't need charging like a battery. Instead you refuel it with hydrogen, a process that takes about as long as topping your old dinosaur-burner with petrol. While there are relatively few hydrogen refilling stations, Honda also makes a home energy station that takes your natural gas supply and reforms it into hydrogen, which it then uses to supply your home with heating and power as well as refilling your car's fuel cell — halving your energy bills in the process.



1.5-YARD DASH

Inside, the entire dash forms a 1.25m display, running an Android operating system. Great for really, really widescreen films.

ELECTRO LITE

By pumping out used electrolyte solution and pumping new 'charged' solution in, the Quant can be refilled like a standard car.

FUTURE POWER

ROADS THAT CHARGE

With inductively charging toll roads, you'd be able to keep driving while your car powers up. Sounds like sci-fi? In South Korea, there are already a few roads that inductively charge electric buses.



JET ENGINES

The Jaguar C-X75 concept, announced

in 2010, used a pair of diesel-fed jet engines to power its four electric motors, offering huge amounts of energy from a relatively small amount of fuel.



USING LESS POWER

While it's not likely to take off in the US, some auto-makers are focusing on making smaller, lighter and more aerodynamic cars that just need less energy, like the superb VW XL1.



THREE

IT'LL BE GESTURE- CONTROLLED

Car designers walk a fine line between keeping us entertained and keeping us safe. The answer is to go hands-free, with a gesture-controlled cockpit

BASS FOR YOUR ASS
The Touch R's seats are fitted with actuators that give the impression of thumping bass without annoying everyone in a mile radius.



VW GOLF R TOUCH

For a car that's supposed to let you keep your eyes on the road, VW's infotainment showcase offers a lot of pixels to not look at. There's a huge 12.8in main screen for Apple CarPlay or Android Auto, an 8in screen below that for climate control and volume, and the instrument cluster is itself a 12.3in display. What's more, every switch, button and dial has been replaced by proximity-sensing touch surfaces.

The idea is that swipes and gestures are easier, and therefore safer, than buttons and dials. So, rather than fiddle with a dial to zoom into your

sat-nav map, you swipe two fingers across the multi-touch slider that separates the two central screens. Commands are met by haptic feedback, so you know you've clicked or swiped without taking your eyes off the road.

Better yet, you don't actually need to touch the controls. A 3D camera in the roof recognises hand gestures: waft your hand near the sunroof and it'll open; wave in front of the stereo and it'll fast-forward or rewind. Which is great until a bee gets into the car and you start performing an impromptu DJ set in your attempts to shoo it out.

GET THE TECH NOW

Navdy
If you can't wait to start air-swiping your calls and wafting your maps, there's always Navdy, described by its makers as "like Google Glass, for your car". Like the Garmin HUD it projects information onto a head-up display, with the added bonus of hands-off gesture control.
US\$320 (\$430) / navdy.com



NO MORE PLAYLIST PUNCH-UPS

Self-driving cars may eliminate the problem of other people's awful driving, but there's still the problem of other people's awful taste in music. Or perhaps not, if Harman's Individual Sound Zone (ISZ) technology takes off. By combining the vehicle's existing speakers with added headrest speakers and some flat speakers within the car ceiling, ISZ can create a 'halo' of sound around each passenger's head, so you only hear your own playlist and none of whatever ghastly earvomit the Simply Red fan to your left is listening to.

It's not as isolating as headphones, so you can still hear other people's voices to play I Spy and the Eddie Stobart Game.



BUZZ SWIPE-GEAR

The 8in touchscreen to control the air-con uses subtle haptic feedback that makes it feel like you're pressing a button or a slider.

PARK LIFE

VW's new Trained Parking uses a camera to identify a space, move up to it and park, all with minimal input from the driver.

APPLE CARPLAY OR ANDROID AUTO? BOTH, ACTUALLY...

Your choice of phone has in the past restricted you to certain speakers, accessories and services, but thankfully it doesn't look as if it'll make any difference to your motor. At CES last month VW, Audi, Parrot, Kenwood and Pioneer all announced car tech that supports both CarPlay and Android Auto. Pick of the crop for us was Parrot's RNB6, a 7in HD head unit running Android Lollipop (but supporting CarPlay), that works with front and rear cameras, parking sensors and vehicle diagnostics to provide a seriously geeky ride, even before you start playing with the sophisticated audio tuning, Shotgun!



FOUR

IT'LL BE A TAXI THAT THINKS FOR ITSELF

When all cars drive themselves and algorithms can predict when and where you'll need an autonomous cab, cars will become like hotels: a service, not owned, but hired

AFTER YOU

LED displays, a laser projector, sounds and speech allow the Merc to communicate with pedestrians and other drivers.





MERCEDES F 015

If the car of the future really is an artificially intelligent Uber, there are bound to be different levels of service. At the bottom will be robotic Dacia Sanderos that make stopoffs for Amazon deliveries. At the top, there'll be this reflective scoop of luxury.

The F 015 is basically a small first-class lounge on wheels. The seats face each other, as those rich enough to sit inside wouldn't dream of doing anything so servile as driving, but passengers can still act as backseat drivers, instructing the car via huge touchscreens.

The benefits aren't just for those inside, though: if it spots

a pedestrian at the edge of the road, the F 015 will halt and project a pedestrian crossing, like Sir Francis Drake laying his cape across a puddle.

While the engine — a hybrid electric powertrain with a fuel cell for longer journeys and batteries for around town — and the self-driving tech are clever, the most forward-thinking thing about this car is how Mercedes says it will be used. It's a 'mobile living space' rather than a means of transport: somewhere to watch films and have meetings and sleep while, incidentally, also going somewhere.

GET
THE
TECH
NOW

Four English towns — Milton Keynes, Bristol, Greenwich and Coventry — will be testing driverless cars this year. They'll mainly be slow-moving pods rather than super-luxury robo-coupés but, unlike the flashier models, they'll be usable by the public. That should take the sting out of realising you're in Milton Keynes.



THE GOOG-MOBILE

When the Giant King of the Internet builds a self-driving car, it's natural to have high expectations, and it's equally natural to be bemused when the motor in question turns up looking like the plastic wobblemobile you trundled around the playground in as a toddler. But Google's prototype takes vehicular autonomy to its full extent: the only human control is a button, and given Google's expertise in voice recognition, it's unlikely that even this will remain in later versions. Its cutesy grin belies the formidable tech lurking beneath: on top of GPS and camera positioning, 64 lasers scan the surroundings in 360°. Unsurprisingly, auto companies are quietly battling to get Google's tech into their machines.



LOUNGE LIZARD

The interior is described as a 'luxury lounge', with walnut flooring, nappa leather seats and a nice little table for your glass of Riesling.

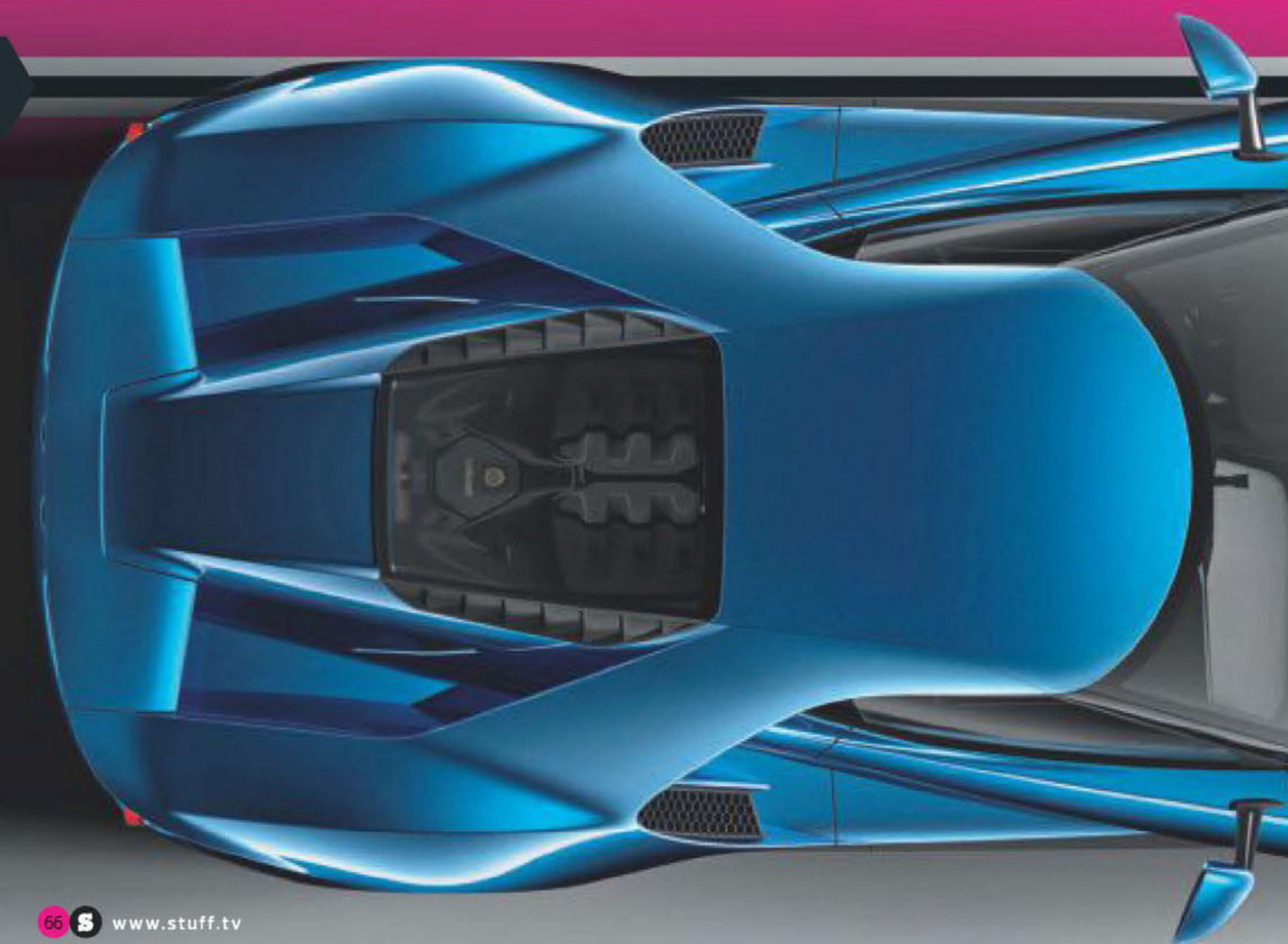
SCREEN IF YOU WANT TO GO FASTER

Gestures and touch controls on the six large interior displays allow you to navigate and select driving styles.

FIVE

IT'LL STILL BE REALLY, REALLY FAST

As motorways become automatic and cities become no-drive zones, the car of the future will live on the racetrack and the winding country road





FORD GT

You wouldn't think a 600bhp supercar would allow the word 'eco' within 300 feet of the scoops and blades of its carbon fibre bodywork, but the new GT's engine is a big, bad, bodybuilder brother to the EcoBoost engines found in today's Fiestas. Of course, if you were to try to put the GT's 3.5-litre V6 in a small car it would probably punch its way out and stomp off on its muscular pistons in search of a polar bear to eat, but that's what cars like this are about.

When all the boring driving is done by computers and every journey from A to B is done

under clean, green power, there will still be cars that want to go from A back to A, repeatedly, very quickly indeed.

The GT is both a pedigree hound and a mechanical wolf from the future. It's a clear descendant of the original GT40, which was designed and built in Britain and dominated Le Mans in the 1960s, but it's also festooned with tech, including a body that's mostly carbon fibre and a rear wing that actively angles and positions itself for aerodynamic effect. And, like previous GTs, it promises to leave a trail of frustrated Ferraris behind it.

GET THE TECH NOW

Dash

You might not have the team of experts and the giant pool of money required to run a proper racing outfit, but you can improve both your driving and your car's performance using the Dash plug-in module and app, which give advanced feedback on both your car's vital signs and the amount of fuel you're using. **US\$10 (\$14) / dash.by**



HONDA NSX

Unveiled (as the Acura NSX, its name in the US) on the same day as the Ford GT, Honda's new supercar is, like the GT, the son of a superstar. The original NSX had some help, to be fair – Honda enlisted Ayrton Senna for final testing and design tweaks – but the long-awaited new NSX promises to uphold the family name.

It's a hybrid, but not in the Prius sense: like the BMW i8, it has front wheels driven by a pair of electric motors, but there's also a third motor that fills in the gap between takeoff and the huge whump of power delivered by the twin-turbocharged V6. Honda says it'll be even quicker off the mark than crazy-acceleration, all-electric cars like the Tesla Model S. Phew.



FAST

Ford hasn't published what its new baby can do yet, but expect a 0-100 of around three seconds and a top speed of over 322kph.

LIGHT

Because the chassis itself is made with carbon fibre, the GT will rival the McLaren P1 and Ferrari 458 for power-to-weight.

OUTTA SIGHT

It'll be late 2016 before the first of the new GTs rolls onto public roads, at an estimated price of around £250,000 (\$505,000). Better start saving.

FASTER STILL

FLYING CARS

The ultimate answer to your traffic woes is to rise above it and hoon along in a straight line at 241kph. It's still early days, and the Aeromobil 3.0 is more of a drivable plane than a flying car, but the dream of a 3D commute remains strong.



HYPERLOOP

Why go in a straight line at 241kph when you can go in a straight line at 1223kph? This insanely fast vacuum tubeway, currently being considered by Tesla mechwizard Elon Musk, is like air travel without the pesky up-down bit.



OR YOU COULD JUST STRAP YOURSELF TO A JET ENGINE

That's the basic premise of Bloodhound SSC, a 'car' being developed in Bristol to break the 1610kph barrier. With 135,000bhp and wheels of solid aluminium, it's a nippy little runner.



ELECTRIC CARS COULD SOON HAVE WIRELESS CHARGING

The future is electric and Qualcomm is already laying down the dynamically-charging path for it



A couple of years back, Qualcomm showed off its Halo technology that would one day charge electric vehicles wirelessly.

We oohed and ahead, and then just as quickly, forgot about it as it was just a concept at that point in time. Who knew that this one day would be upon us in 2014, when we flew to Putrajaya to check out how it worked at the second leg of the first-ever Formula E, and to hear of the grand plans they're cooking up for the future.

FORMULA E IS THE BEDROCK

Qualcomm broke out the charging pads at Formula E. Capable of charging the specially outfitted BMW i3 and i8 course cars wirelessly, which means no unplugging in case of emergencies, the charging stations are set up in certain areas where the cars can be parked over them.

Just like how Formula One technology trickles into real life car making, think of Formula E as the testing grounds for the tech that will one day be in your own garage or car park. Graeme Davison, Vice President of Technology tells us that Qualcomm looks forward to installing the same Halo tech in the actual Formula E racing cars.

Formula E also showcased the possibilities of an electric future, that such a large scale event with so many electric-powered vehicles could run smoothly without a hitch.

IN THE FUTURE

But the reason people don't

buy electric vehicles is because of their limited range, and wireless charging doesn't exactly solve that. Well, in the eventuality that electric vehicles become the vehicle of choice for the masses, range wouldn't be an issue. Why? Dynamic charging is the answer.

There won't be the need for perfect alignment to get wireless charging to kick in at the frequency sweet spot of 85 kHz. While that won't disable the frequency that your keyless system works on, it's still not the safest bandwidth to get within.

So what happens if your cat or kid crawls into the space between car and charging pad? Don't worry, Qualcomm has the contingency answer for that too. Termed Living Object Protection, the system can detect when a foreign object enters within proximity of the charging field. This automatically shuts the system down, and sends the owner a notification for his intervention. The mm-based radar system will be so sensitive that it can even detect the heartbeat and breathing from a distance away, so no worries about it being activated too late.

Sorry for the digression, we got distracted by the cat. Back to the topic of dynamic charging. The plans Qualcomm has for wireless charging doesn't stop at the pad, they include broader categories like static charging, semi-dynamic charging, and dynamic charging.

The first could be parking spots outside your local grocers, where you park the car and get it charged while you pick up necessities. Davison puts it this way: "If you can park a car, you can charge a car."

There won't even be a need for perfect alignment in the future.

The second could occur at traffic lights, where the semi-dynamic charging kicks in while you stop your electric car momentarily.

The third and most ambitious are charging pads built into the roads themselves, juicing up your car on the drive, meaning you'll never have to stop to "gas" it up.

On a much larger scale, the energy footprint of entire cities could possibly be changed with more electric vehicles powered by wireless charging. Think less air pollution. As the air becomes cleaner, windows can be opened and as such, people wouldn't feel the need to switch on the air-conditioning. Call it an energy revolution if you will. We're liking the potential domino effect that wireless charging can bring about.

And it doesn't just end there. The different possibilities of charging wirelessly on the go? All that can be solar-powered, and the world will be free from evil pollution. That is, until someone somehow finds a way to sentence the earth to death once again.

But you get the idea. It all begins with this one wireless charging pad, and from here on out, infinite potential.



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haymarket

Gaming democracy

Tein Hee Seow gets a taste of true power as he dives into a brave new gaming world envisioned by Asus' latest ROG G751

\$2198 / asus.com/sg

Yes, we're PC gaming snobs. Give us a gaming desktop anytime, because we'd rather spend our precious hours punching those keys and clicking the mouse than wrestling with complicated button combos on a controller.

But like all first world problems, it boggles the mind to choose from a wide range of capable gaming systems. And there's the matter of desktops versus laptops, the latter being a more suitable choice for gaming tournaments.

Asus' gaming laptop range, aptly named Republic of Gamers, nails that need down to a perfect tee. And when we took the base model of its latest Asus ROG G751JT out for a spin, we could certainly see why.



1 Fighting fit

The design reference to a stealth fighter is quite obvious. The tapered edges, robust look and non-glossy surface reflect the power emanating from this behemoth. Though the plastic chassis feels a tad less premium, it makes the laptop's 4.8kg weight (including the battery) manageable for lengthier trips.

2 Show it off

We're suckers for anti-glare screens, and this 17.3in full HD display was a sight to behold even under strong light. When the sun shone upon the screen, we still got crisp, clear visuals while we exterminated a few goblins. The 178 degree viewing angle is, however, way too wide – get a 3M filter to block prying eyes.

3 The right equipment

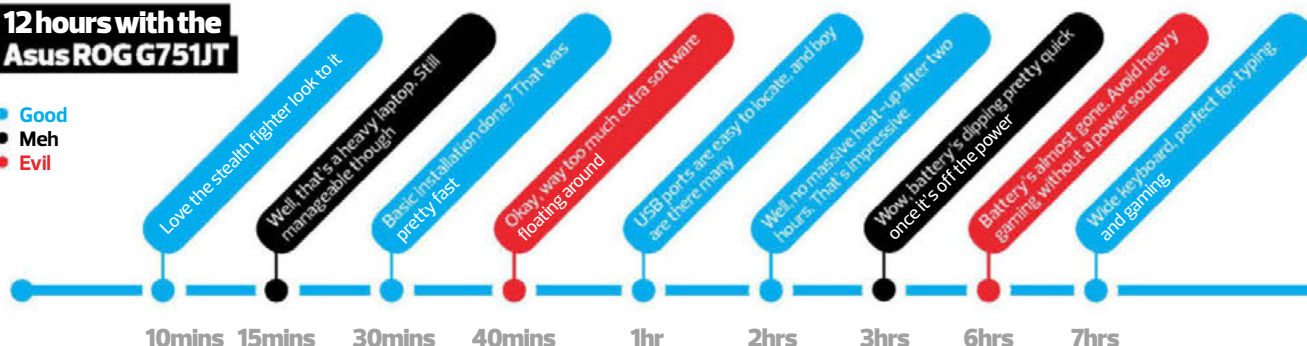
You can't take the G751JT lightly. Not with its massive size. But the upside is its amazingly easy to use keyboard, which tapers down at an angle for comfortable use. The generously-sized mouse pad is a huge plus point, but less likely to be used since a proper mouse will be the preferred fragging tool.

4 Juiced up

Games tell great stories. For the G751JT, it's one of sheer power. It purrs ever so silently, but on-screen, the system handles graphics rendering and loading times effortlessly. Most importantly, it's a cool cat, thanks to the well-ventilated design that keeps the laptop from overheating.

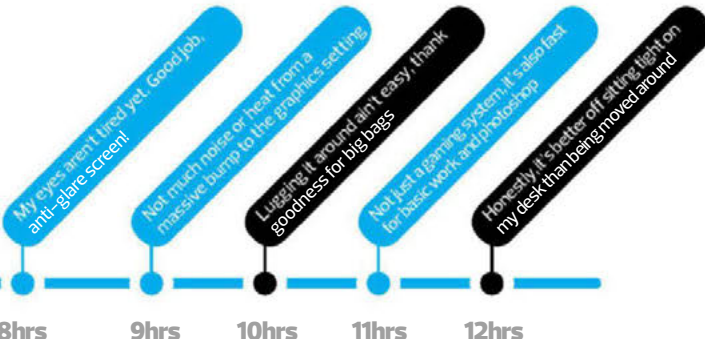
12 hours with the Asus ROG G751JT

- Good
- Meh
- Evil



**5 The brain drain**

For all the praises one can sing, a gaming laptop's limitation rears its ugly head when it's disconnected from a power source. Intensive gaming sessions can drain the battery juice under three hours. Moderate usage, however, stretches that mileage slightly beyond four hours.

**Tech specs****Processor** Intel Core i7-4710HQ Processor**Graphics** Nvidia GeForce GTX 970M with 3GB GDDR5 VRAM**Screen** 17.3in Full HD Anti-Glare**RAM** 8GB DDR3**Storage** 512GB SSD + 1TB HDD**Connectivity** HDMI x 1 / Mini-DisplayPort x 2 / Wi-Fi (2x2 802.11ac) / Bluetooth 4.0 / USB 3.0 x 4**Built for gamers**

The Asus gaming laptop has a few tricks up its sleeve to up the ante in a game

**■ Dedicated steam and record keys**

A single keystroke rather than hovering the mouse cursor over the Steam app makes gaming so much easier. Not to mention, a quick record button to immortalise your gaming wins.

**■ Overclocking**

The laptop's design isn't just for show. The rear vents, resembling the jet vents of the advanced fighter it's modeled after, expel the heat from the laptop. And we were none the wiser too, since it wasn't too noisy.

**■ Multiple displays**

Why would anyone need multiple display outputs? Other than for giggles and just because you can, there's the option to play, watch a movie and read up on gaming strategies all at once.

**■ Gaming Center**

Like fingerprints, each game is unique, so no single graphics setting fits all. The Gaming Center lets you tweak certain games with specific settings for the optimal gameplay experience.



Value-wise, you're robbing Asus blind if you buy the Asus ROG G751JT at this price. But if power ranks above all else, this gaming laptop isn't going to make you want to give up your more powerful desktop over this. While it's leaning on the chunky side, at least it's more portable than clunky gaming consoles. [@teinhee](#)

STUFF SAYS ★★★★★

Perfect for on-the-move gamers on a shoestring budget

Steady as a rock

The Sony A7 range of full-frame cameras gets yet another addition to its cadre, but is it one model too many?

\$2149 (body only) / sony.com.sg

The A7 range of mirrorless interchangeable lens cameras has only been around for slightly more than a year, but it's got more iterations than an evolving pokemon. The A7, A7R and A7S were all vying for the attention of your photography wallet before, and now the A7 mark II is here to absolutely confuse the crap out of you. But what does the 4th Musketeer of our merry band of full-frame mirrorless lens-swapping cameras bring to the table? The specifications don't look all that different from its predecessors, yet the pricing is lower than the A7R and A7S. If its enhancements are meant to satisfy an increasingly specific sector of camera enthusiasts, does it have enough mass appeal?



1 Hello there, big boy

The A7 Mark II is noticeably bigger and chunkier than before, and its grip has obviously grown from the previous models. Now it's almost the size of a normal DSLR. However, it's still impressively small for a full-frame sensor, with the sensor itself looking almost comically large within the body.

2 Keep holding on

Perhaps the grip was enlarged to accommodate the thoughtful addition of a dial on the front, below the shutter button, which is undeniably useful. So the recessed bit is also much deeper, and the whole rubberized section sits in your hand very securely and snugly, like a bug in a rug.

3 Modern conveniences

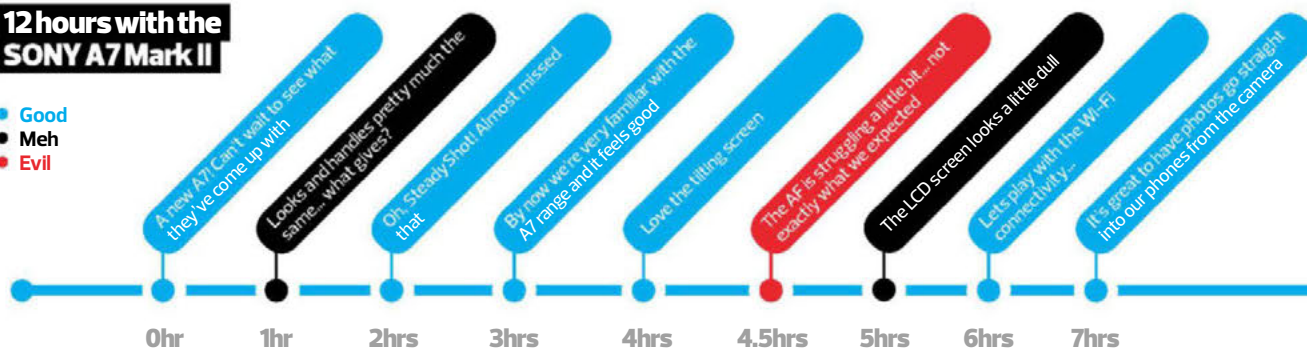
The EVF is great to use though slightly laggy in low light, and the main LCD screen can also be tilted for shooting from the hip or above eye level. Also comes with now-obligatory Wi-Fi and NFC connectivity for a whole suite of remote use via smartphone with the aid of Sony's mobile apps.

4 Picture Perfect

Images are sharp and crisp, great dynamic range. The full-frame sensor definitely shows its stuff, as colours really pop and seem to leap out of the pictures. Yet, the Sony also takes amazing black and white photos thanks to the amazing detail it captures. The camera's LCD does not do its images justice.

12 hours with the SONY A7 Mark II

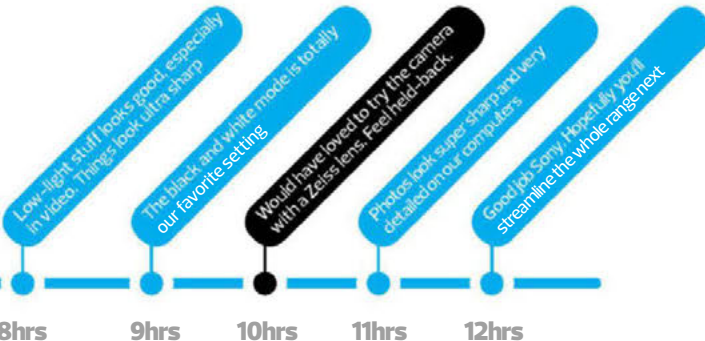
- Good
- Meh
- Evil





5 Shake off the shakes

The Mark II is unique due to its 5-axis image stabilisation function, and it really shines. SteadyShot is great for handheld video and zoomed in shots of stuff, especially with long lenses and lower shutter speeds. The AF isn't particularly fast, but more importantly, gets it right most of the time.



Tech specs

Sensor 35mm full frame "Exmor" CMOS sensor

ISO sensitivity 50–25600

Max burst speed 5 fps

Video 1920x1080 at 60 fps

AF points 117 (phase AF)

Dimensions 126.9x95.7x59.7mm, 556g (body only)

Full-frame? Steady!

The A7 Mark II really makes the best of its full frame pedigree as well as its new Steadyshot



■ Fun times with HDR

As with many recent cameras, the Mark II has a variety of HDR settings you can mess around with. Apart from the HDR art mode, try using it to create ghostly multiple-exposure images.

■ Sharp as a knife

One thing that we've come to expect from the A7 series is Sony's trademark super sharpness, and the A7 Mark II does not disappoint. Photos are sharp enough to poke your eyes out.



■ Brilliant colors

The colors off the full-frame sensor are vibrant and vivid while still preserving detail. The camera has great dynamic range, which unfortunately don't present on its LCD.

■ Black or White

The default Black and White mode on the Mark II really delivers stunning, detail-heavy, mood-infused photos, fully of creamy gradation and pin-sharp contrast that's great for portraits.



The A7 Mark II is another great addition to the A7 line, but the range is getting pretty crowded. A less-than-stellar LCD screen and sometimes sluggish autofocus are small flaws on an attractive package, as the camera builds on the strengths of its predecessors. SteadyShot should be a feature on all future models.

@banglesong

STUFF SAYS ★★★★★

Sony's mirrorless full-frame technology at its steadiest yet

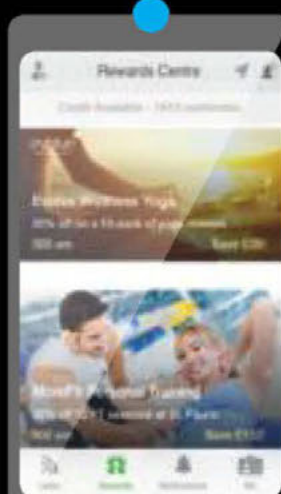
App:roved

FOR
HEALTH
POINTS

Earthmiles

Endorphins and a non-embarrassing waist size are good rewards for exercising, but what if you want a monetary incentive too? Enter Earthmiles. It connects to fitness trackers such as Strava, converts your workouts into points, then gives you a list of health-conscious places to redeem them. It's a great idea, but our 'rewards' weren't any better than sweat-free offers from Groupon. If they sign up some better partners, it could be a winner.

Stuff says ★★☆☆☆
\$free / IOS, Android

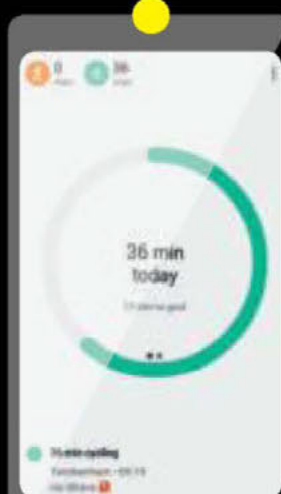


FOR
LAZINESS
GUILT

Google Fit

As the big G's rival to Apple's Health Kit, this app aims to track all your fitness-related activities on your Android. It does a pretty good job, although testing this over Christmas led to some pretty sad stats, with a Boxing Day low of 6mins of movement. It also tallies all your workouts from your other apps and fitness trackers, so isn't dependent on you carrying your phone everywhere (try it, you might like it) – but it doesn't always interpret the data properly.

Stuff says ★★★★★
\$free / Android

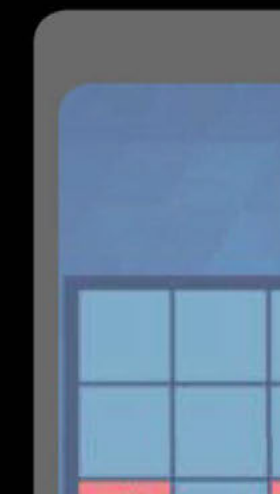


FOR
YOUR BRAIN
CELLS

Peak: Brain Training

Brain training is far from new, but Peak does it better than any other app we've used. It's all in the simple genius of its quickfire games, the clean, colourful graphics, and the personalised training programme that's designed to make you sharper and more focused. Whether it will regrow all those brain cells we've brutally murdered over the years remains to be seen, but we've subscribed for the bonus content to give it a good shot. Miracles can happen, right?

Stuff says ★★★★★
\$free (in-app purchases) / IOS

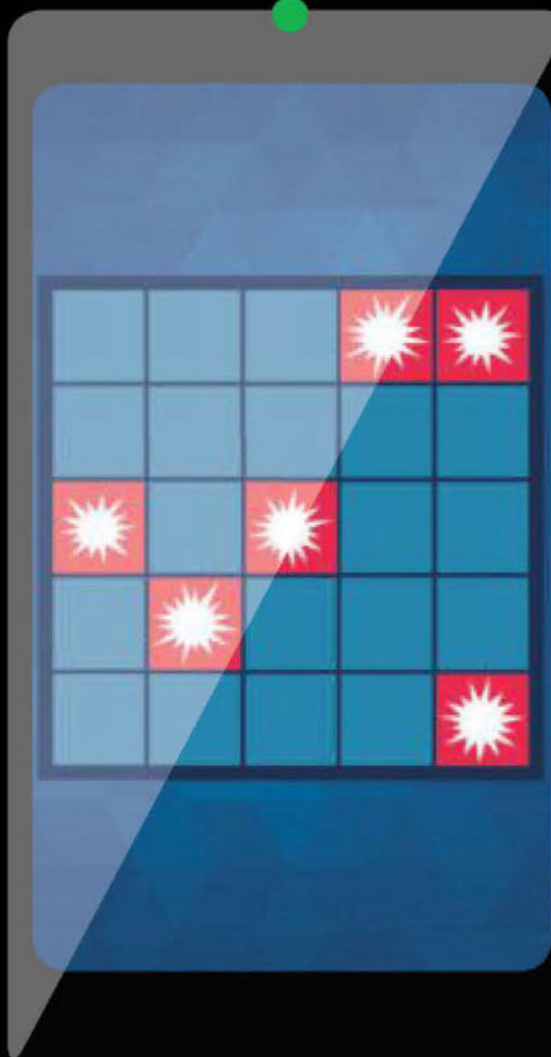


FOR
LIFE
HACKS

Workflow

This allows you to create 'apps' that set in motion sequences of activities. Make a homescreen icon that prepares an email template with your daily to-do list. Or have one that auto-crops photos as they're taken. Or you could save an idea straight to Evernote. Or find out where the nearest coffee shop is, what it looks like and how to get there (that's one of the pre-prepared Workflows). The learning curve is steep but it's a useful, powerful tool that's fun to play with.

Stuff says ★★★★★
\$5.98 / IOS





● Google Earth

Not sure where to explore next? Swipe your way around a zoomable world, like a digital Superman, and then zero in on a place to visit. (Or just use the search field, like a normal person.) Overhead views of landmarks, Wikipedia entries, tons of photos, and links to nearby sites of interest are then all yours for the taking.

Stuff says ★★★★★
\$free / Android, iOS

Mini meme



TOUCH-SCREEN TOURIST

Why bother with expensive plane tickets and hotels when you can see the world on your phone or tablet? Here's *Stuff's* guide to sightseeing from an armchair



● Google Maps

Google Maps isn't just about directions – increasingly, it's about discovery (and not in the sense of snooping about the nice bits of town). It now moves beyond the road, enabling you to wander around Gombi National Park, visit the Pyramids and navigate the Colorado River. Google 'Street View Treks' for more sites.

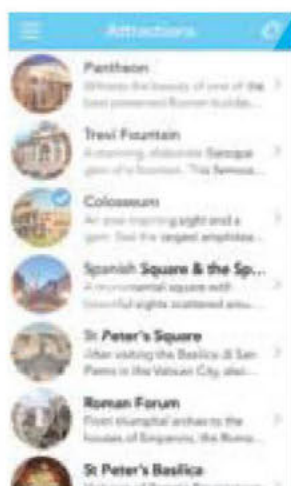
Stuff says ★★★★★
\$free / Android, iOS



● Bonjournal

This one describes itself as a simple travel journal app. Install and sign up and you'll then be faced with a blank page, screaming MY FIRST JOURNAL. Don't worry, you don't have to write anything – just tap the 'people' icon, select 'featured' and do some touchscreen tourism vicariously through other people's tales.

Stuff says ★★★★★
\$free / Android, iOS



● Tripomatic

In Tripomatic you select a destination, whereupon you're presented with lists of activities and attractions. For each, you get imagery and insights (although Android users are a bit short-changed on the former). You can also build an itinerary if, you know, you're actually thinking about leaving the house.

Stuff says ★★★★★
\$free / Android, iOS, BlackBerry



● Storehouse

Storehouse is similar to Bonjournal, but it's not just about travel (although perhaps 'Building a Turducken' is a journey of a kind). Select 'Places to go' and you'll gain access to beautifully illustrated stories of exploration and adventure, full of gorgeous photography and video that goes full-screen with a tap.

Stuff says ★★★★★
\$free / iOS



● Triposo

It's another app intended to build a travel itinerary, but Triposo's really cool feature is its city walks. Choose a location, whether that be Paris or Buenos Aires, decide on a distance and you'll be given a route and sights to see along the way, each of which can be explored further with a tap. Virtual walks for virtual tourists! Genius!

Stuff says ★★★★★
\$free / Android, iOS

Big on sound

The largest member of Razer's ever-expanding peripheral portfolio is a sound bar. Melvin Tang sees if it's some kind of monster

■ Consisting of one compact sound bar and one mammoth subwoofer, the Leviathan is actually quite modestly sized. The proportions are spot-on though; the sound bar is small enough to pair with a desktop yet big enough to suit a large TV.

■ Despite its low price, it's clear Razer didn't skimp on quality or materials, resulting in a very premium-looking product. The clean design also doesn't scream "GAMER ALERT" while retaining a level of cool, letting it fit right into any living room with ease.

■ After hearing it in action, the Leviathan name now makes sense. For something this size, it blasts everything from soft music to explosive gunfights loud and clear. Of special note is the subwoofer, which adeptly emits deep, intense waves of bass.

■ The Leviathan connects to devices via 3.5mm jack, optical cable connection, NFC, or Bluetooth 4.0 aptX, meaning it'll take care of audio needs for consoles, media players, and even smart devices. Razer even provides the necessary cables.

■ At just \$280, there's really nothing to complain about, and the only real shortcoming is that it doesn't come with a remote. All the controls are on the sound bar, which is okay if you're right in front of it on the computer, but rather inconvenient when sitting on the couch while console gaming.

Tech specs

Total power output 30W (sound bar), 30W (subwoofer) **Impedance** 8 ohms (sound bar), 4 ohms (subwoofer)

Frequency response rate 180–20,000Hz **Approximate weight** 2000g (sound bar), 2350g (subwoofer)

Price \$280 / razerzone.com/sg-en

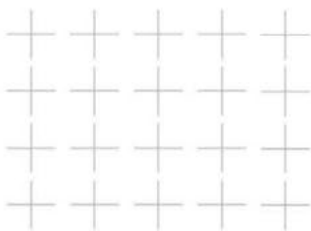


In the mode

You can't tweak the EQ on the system, but it does come with three presets for gaming, movies, and music. Each does handle the scenarios they're named for pretty well too.

You're surrounded

Equipped with Dolby 5.1 surround sound, you'll hear where your enemies are coming from whether you're seated right in front of the Leviathan, or on the couch in the living room.



STUFF SAYS Great value for money seldom sounds this fantastic ★★★★★

Why did Razer make a sound bar?

Melvin Tang



A couple of months ago, my first reaction upon hearing gaming peripheral giant Razer was making a sound bar was "why?" Now that I've tried it for myself, it all starts to make sense. Up till now, there hadn't been a sound bar for console gamers that was actually affordable. Add that to the fact that you can use it with your PC or smart device for music as well, and you've really got one sound bar to rule them all.

Watch the thirdie

Sony's attempt no.3 at an Android Wear timepiece has wrapped itself around our wrists — but is it the best one yet?

■ Its design won't get your heart racing as the shiny circular body of the Moto 360 might, but the SmartWatch 3 isn't ugly — just plain and inoffensive. The adjustable strap is comfortable and the metal clasp is sturdy. Sadly, you can't use standard watch straps with it — you're stuck with Sony's.

■ The SmartWatch 3's biggest disappointment is its screen. While it's as sharp as its other Android Wear rivals, it can't hold a candle to the deep blacks of the LG G Watch R, and colours appear washed out, with yellowish whites.

■ There's no lack of power, though. The 1.2GHz quad-core processor runs the latest version of Android Wear without any lag or stutter. Speaking of which...

■ Android Wear 5.0.1 Lollipop brings a host of useful tweaks and features including funky third-party watch faces, and a Theatre Mode for killing off the screen in distracting situations.

■ With the screen set to Always On, the SmartWatch 3 matches the G Watch R's 1.5-day battery life, which is a decent innings for existing Google watches. Its microUSB charging port is a double-edged sword, however. Cables are fiddly and inelegant compared to a charging dock.

Techspecs

Screen 1.6in 320x320 TFT LCD
Processor 1.2GHz quad-core ARM A7
Connectivity Bluetooth 4.0, GPS, NFC
RAM 512MB **OS** Android Wear 5.0.1
Battery 420mAh **Storage** 4GB
Dimensions 36x10x51mm **Weight** 38g (Classic), 35.7g (Sport)
Price US\$250 (\$340) / sony.com.sg



Run for your money

This is the first Android Wear device with built-in GPS, which means no more lugging your phone on runs to track your route. It works with major apps such as RunKeeper, with more support to follow.

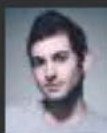


Dust it off

The SmartWatch 3's rubber strap is a powerful dust magnet. Luckily it's IP68-rated against dust and water, so you can rinse it off under the tap without having to worry about its insides drowning.

STUFF SAYS The fittest Android Wear watch around. Shame about the display ★★★★★☆

The perfect fitness smartwatch?
Almost...
Esat Dedezade



While most people prefer the circular styling of its LG and Motorola rivals, fitness fans should be extremely tempted by the SmartWatch 3's built-in GPS. Going for a run, tracking your route and streaming music to Bluetooth headphones — all with your phablet left at home — is liberating. It's a shame there's no heart-rate sensor. For that your best bet is something like the TomTom Multi-Sport or Garmin Forerunner 920XT.

Tricky master

Samsung's NX1 has got a big and heavy bag of tricks and boasts some incredible abilities. Bang Ong puts it to the test

\$1999 (body only) / samsung.com/sg

In the world of DSLR cameras, Samsung isn't really a highly respected brand, nor does it have much pedigree, but that hasn't stopped it from smashing its massive technological boot into the sector. And the combination of its expertise in semiconductors, LED displays, and wireless connectivity has created an unexpectedly holistic DSLR. As if Santa Claus was sent a wish-list from a camera nut, detailing every single feature he wished could be on a DSLR, and the list got intercepted by Samsung who then just said, "take a hike Santa, we'll be building this beast" And so we ended up with the NX1, a camera with so many bells and whistles it's practically a symphony orchestra.



1 Size matters

The NX1 isn't very much bigger than an entry-level DSLR, which is surprising, given the array of functions it possesses. Yet the body feels solid and also comes weatherproofed to battle against moisture and dust during your more messy shoots. No cheap plastic bits to be found anywhere.

2 Control freak

Two dedicated mode dials on top of the camera provide quick access to all its essential functions such as camera modes, ISO, AF, WB, Metering, and Multiple drive modes. There's also a top LCD settings display, EVF, and a super AMOLED touchscreen that can extend and tilt to see and do everything.

3 Fast draw

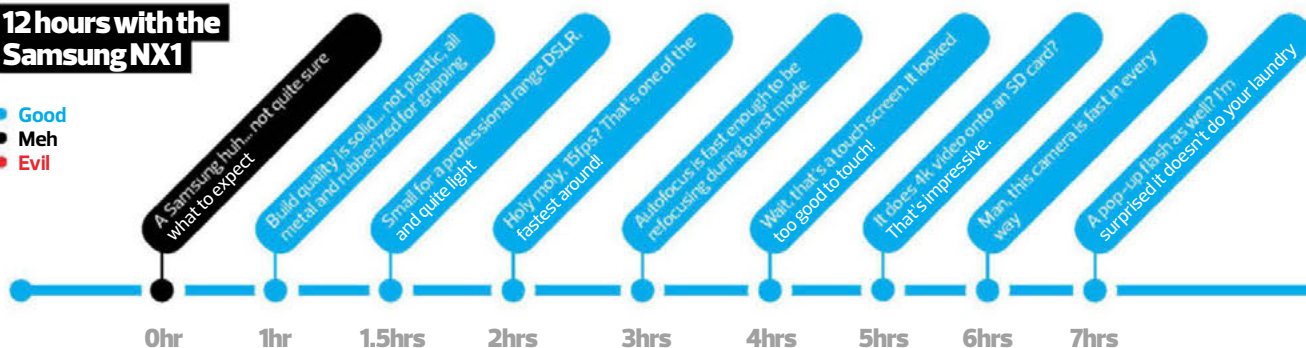
The camera starts up quick as a greased hamster and is ready to shoot instantly. Autofocus is swift and deadly accurate in normal conditions, and with the aid of an eerie green focus assist light, competent in low-light. The EVF and AMOLED displays are some of the most beautiful we've seen too.

4 Impressive imaging

The photos you take look so good on the camera's main display, you'll wonder if any other display device will be able to match. Thankfully, the images are true to form outside of the NX1, full of pin-sharp detail and vivid, almost surreal color you've come to associate with the Samsung color palette.

12 hours with the Samsung NX1

● Good
● Meh
● Evil



Tech specs**Sensor** 28.2MP APS-C CMOS**ISO sensitivity** 100–25600**Max burst speed** 15fps**Video** 4K@24fps, UHD@30fps, 1080p@60fps**AF points** 205 (Phase AF), 209 (Contrast AF)**Dimensions** 138.5x102.3x65.8mm, 550g (body only)

4



5

5 In the stats zone

The NX1's features feel like a numbers game straight out of a Cambridge mathematician's thesis. 28.2MP on a cropped sensor give you 4K and UHD video capability, and its burst rate goes up to 15fps for high-speed photography with a maximum shutter speed of 1/8000 of a second. Alan Turing wept.

A Knockout Combination

The NX1 looks like a lightweight but hits like a gigantic robot with a rocket punch

**■ Awesome LED**

The Super AMOLED display is the best we've ever seen on a camera. It's also a touchscreen and all-tilty-like. Pictures look so good on the camera you might just keep them there.

■ Fast is fast

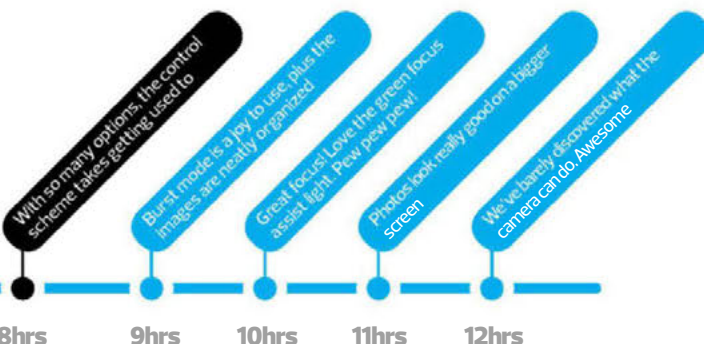
The camera controls are lightning quick and responsive, showing no signs of slowing even after 15fps bursts. High-speed shots are helpfully organized into folders for review. Neat!

**■ Low light lovers**

Samsung must have some kind of magical sensor building gnomes whipping up these things, because the NX1 demolishes low-light photography, even with its cropped sensor.

■ Quick, focus!

Everything else about the camera is fast, why shouldn't the AF be? The camera's AF is remarkably intelligent when left autonomous and speedy Gonzalez when called to specifics.



Samsung's entry into the professional photography sector is remarkably well-polished and packs a hell of a combination. Perhaps it's the lack of expectation, but the NX1 really tops its class with features that are thoughtful, well-balanced, innovative and street-smart. We hope it'll be a trendsetter. [@banglesong](#)

STUFF SAYS ★★★★★

A phenomenal camera that must be from the future

Let off some Steam

It was supposed to be a Steam Machine, but when Valve put a delay on those, Alienware decided the world shouldn't have to wait for its apparently console-killing, lounge-loving computer

from US\$500 (\$675) / alienware.com.sg

We've long been promised a PC that would out-console dedicated games machines, but it's never really happened. That's why Valve's Steam Machine initiative was (and still is) so exciting. But with no release date in sight Alienware has decided to go it alone with the Alpha, a PC that combines a price, form and specification that puts it just about in Xbox One and PS4 territory with a bespoke, Windows-bypassing UI and lounge-TV-friendly Steam Big Picture Mode. It even comes with an Xbox 360 controller rather than keyboard and mouse.

So is this the computer to finally kill the console? As Steam currently has around 4000 games and 100 million active players, it sure plays a good numbers game...



1 A screenless laptop

The Alpha is seriously compact – about two-thirds the size of the PS4, although it does need a separate power brick. To get it that dinky Alienware has used mostly laptop components and a bespoke Nvidia graphics card. We tested the cheapest model, which comes with an Intel Core i3 processor, 4GB of RAM and a 500GB HDD.

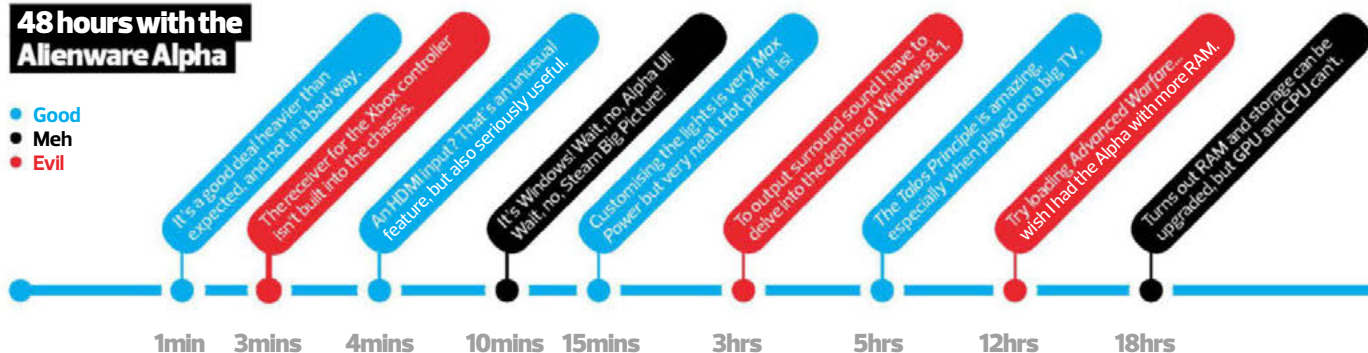
2 Russian doll OS

Startup is a bit like *Inception* but with OSes. First you see the Windows 8.1 screen, then the red Alpha UI. Click the big 'Launch Steam' button and Big Picture Mode fires up. Overall it takes about a minute and a half to get to your games. Windows does intrude with a pop-up occasionally, but it's hidden most of the time.

3 Custom light show

Not sure about the blue highlights of the Alpha's chassis? They're lights and you can change them to almost any colour you like. The array of inputs is mostly what you'd expect – lots of USBs and an HDMI output for connection to your TV. The HDMI input is unusual: it's a pass-through, so you can save one of your TV's inputs.

48 hours with the Alienware Alpha



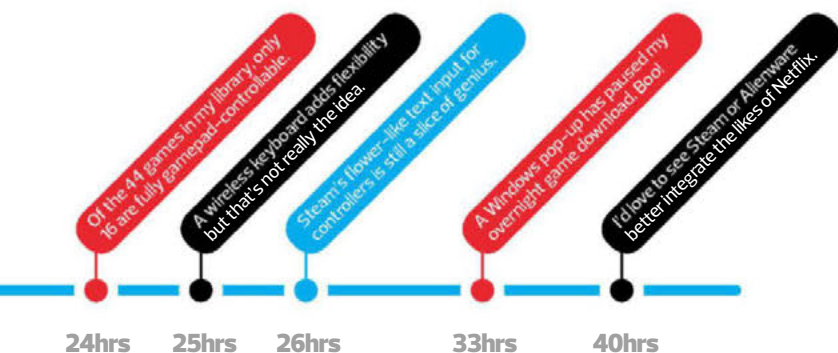


4 A bundle of fun

Of those 4000-ish games on Steam, 10 come free with the Alpha in the form of download codes. They're not all worthy of your time, but *Metro: Last Light* and *Payday 2* really are and would cost you \$60 if bought separately. Consider that the PS4 and Xbox One don't include any free games, and that's a real bonus.

5 The upside of Windows

The advantage of having Windows in the background is compatibility. More games are compatible with Windows than Steam's own OS, and when you want you can enter desktop mode and do all of those usual computery things using the sticks and buttons of the gamepad. Steam Big Picture's own web browser is pretty neat too.



Techspecs

Processor Intel Core i3-4130T (i5/i7 optional)

RAM 4GB (8GB optional)

HDD 500GB 5400rpm SATA 6GB/s (1TB/2TB optional)

GPU Custom Nvidia GeForce GTX GPU with 2GB GDDR5

OS Windows 8.1 with custom launcher and Steam

Dimensions 76x203x203mm

Weight 2kg

Gaming the system

The proof is in the gaming, so just how does the Alpha compare to the PS4 and Xbox One?



■ Far Cry 4

Set FC4 to high detail and it looks and performs very much like the PS4. It's just a little sharper, but also just a little less smooth during general exploration. In our book that's honours even.



■ Advanced Warfare

Uh-oh! Try to run the latest Call Of Duty and you're warned that the Alpha doesn't have enough RAM. Sure enough, it's an unplayable stutter-fest, even on the lowest graphics settings.



■ Tomb Raider

Lara performs even better on Alpha than PS4. Set to 'high' and you'll be greeted with a little more detail – and it's combined with slightly smoother frame rates. Even ultra settings are playable.



■ The Talos Principle

Our favourite game on PC at the moment isn't even on PS4 or Xbox One yet, but it's so good it needs a mention. It generally looks and plays great on the Alpha, but there is quite a lot of screen tear.



The Alpha is definitely the most console-like PC there's ever been, but that doesn't make it a console-killer. The UI experience is too disjointed, loading times are too slow, and as games will be optimised for consoles for years to come the Alpha will be left behind. It's nearly there, though, and there are so many games. @TomParsons

STUFF SAYS ★★★★★

The most console-like computer ever, but the PS4 and Xbox One still have the edge in the lounge



Wearable tech takes the stage

Wearable gadgets might once have been clumsy, half-developed things, but they've come of age. This year's Consumer Electronics Show was awash with on-body tech, and we've attached hundreds of devices to ourselves (not all at once) to bring you our top 10...



WITHINGS ACTIVITÉ POP

There's only so much space on a wrist. By the time you've added a normal watch, some bling and a fitness band, you look like a Del-Boy wannabe selling knock-offs down the market. The Activité Pop is less Del-Boy and more The Man From Del Monte. It's a real watch, for a start — one that tells the actual time.

An auxiliary dial shows how close you are to daily goals that you set on the accompanying app (things like steps taken, calories burned and distance covered). It also monitors your sleep, and you can even take it swimming. It's simple and elegant and unobtrusive — no look-at-me LEDs to tell everyone that you're honestly definitely working out, like, ALL the time. And the battery lasts a whole eight months — almost as long as a 'real' watch.

withings.com



OPINION CÉDRIC HUTCHINGS CEO, WITHINGS

On *Stuff's* stage at CES, Cédric called the Activité the "first true wearable". He wasn't being pompous; it looks great, and you don't need to take it off every few days to charge. So while other gadgets are 'smarter', none are easier to wear. Style and practicality are just as important as functionality in the world of wearables.

The Pop swaps the original Activité's premium steel alloy, leather and toughened sapphire glass face for PVD-coated metal and silicone, but it still feels good and costs, at US\$150 (\$205), a lot less.



RAZER OSVR

OK, so some areas of wearable tech are still at the prototype stage, but that doesn't mean they're not worth getting excited about. In fact, since Oculus first unveiled its Rift developer kit, the gaming community has been squirming in its seat like a puppy full of energy drinks in fervent anticipation of the Age of Virtual Reality. Razer's OSVR is, like the Rift, a dev kit, and it's the good kind: the 'OS' stands for Open Source, meaning people can build software and hardware for it using any operating system – yes, even Windows. You can get CAD files to 3D-print it, although the comparatively bargainous £130 (\$265) price tag means that probably won't be necessary. The unit we saw was paired up with a Leap Motion controller, so it can even recognise hand gestures.

razerzone.com



HANDS ON TEIN HEE SEOW STUFF SINGAPORE

Razer's headset fitted snugly, and while it was still wired to a laptop, there were no physical controls attached. During the demo, I used gestures to sling fireballs while frantically turning my head in search of the ghostly targets. It's early days, so the controls were a little buggy, but it's moving in the right direction.

The OSVR's goggles house a 5.5in, 1080p display that can be replaced with a phone, so you can use it to build PC games, Android apps or anything else you think might work for virtual reality.



AMPSTRIP

Think fitness wearable, and your first thought will almost certainly be 'watch'. But watches are so passé. What you really want is an invisible, strapless tracker that monitors your every move 24/7. One day, embeddable trackers will do all this for us, but until then there's this. AmpStrip is a plaster, basically, worn on the left side of your chest where your heartbeat's strongest. And it only needs removing once a week for a wireless charge of the batteries and change of adhesive strip. The rest of the time you can swim, run and cycle, with the partner app letting you know exactly how hard you're working. This is the future of fitness trackers, and it's available from June.

ampstrip.com



SENSORIA FITNESS SOCKS

Socks? Really? Yes, really – because these aren't just any old foot-gloves. These socks contain dual sensors, one under the ball of your foot and another underneath the heel, that measure the impact of running on your feet before sending the data to the tracker attached to the sock. Small increases in your step rate can reduce unnecessary pressure on your hip and knee joints, helping to reduce running-related ailments. Real-time audio feedback helps you keep to the desired number of steps per minute so that you can improve your run by subtly adjusting your gait. You can even view a heat-map of your feet in the accompanying app, seeing which areas you predominantly land on.

sensoriafitness.com



BELTY

If your competitive eating habit has meant you piled on the poundage over Christmas, this smart belt will be a godsend: it eases the pressure on your expanding waistline by loosening itself as you sit down, thanks to a small motor in the buckle. But it's not just about making life easy for you. The belt also packs an accelerometer and gyroscope, syncing with an app to track your movement. If you stay still for too long – or if the belt finds that your growing girth is cause for concern – it'll prompt you to get up and do some exercise. Yes, it's pretty silly and surely not as useful as the other fitness trackers here. But sometimes silly is OK, especially when it's as clever as Bilty.

emiota.com





GARMIN VIVOACTIVE

The Vivoactive is the Jessica Ennis of timepieces, combining a staggering array of sporting talents in a remarkably svelte form. There's daily activity tracking, deeper GPS-based analysis for triathletes, plus Bluetooth notifications from iOS or Android. Throw in Garmin's Connect IQ store and you have the makings of an Olympic champ.

garmin.com



LOOKSEE

Like Heston's liquorice-poached salmon, the LookSee combines two unlikely bedfellows to brilliant effect. An E Ink smart bracelet with a one-year battery, it has hundreds of patterns to choose from, or you can make your own. With support for iOS notifications, it proves jewellery and wearable tech really can be a great combination.

lookseelabs.com



MISFIT SWAROVSKI SHINE

This bling-encrusted activity tracker solves one of the main problems of wearable tech: power. Craftily concealed solar cells turn light from the sun, LEDs and halogen lights into enough juice to power its fitness- and sleep-tracking talents. Sparkly wearables that don't need charging? Make us a Mr T version and we're in, fool.

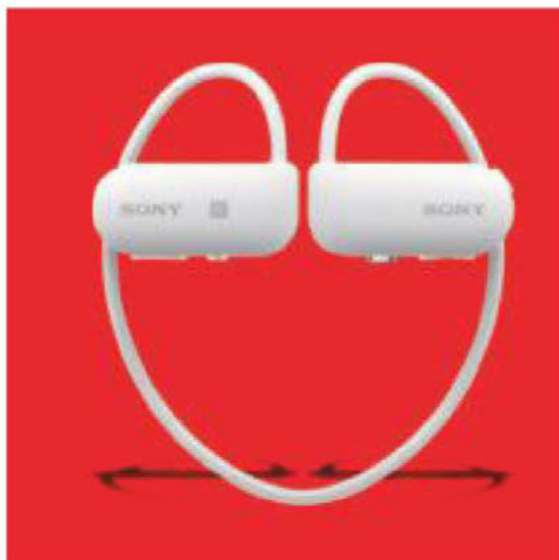
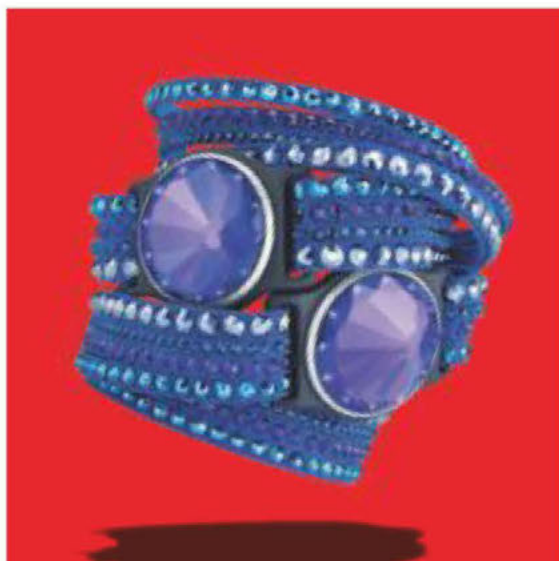
misfit.com



SONY SMART B TRAINER

Sony's lughole-based personal trainer will give you ears of steel. The prototype running gadget uses GPS and a heart-rate monitor to track your progress, telling you when you need to speed up and switching your music to something more fast-paced by way of encouragement. Whether our legs will respond remains to be seen.

sonymobile.com



ALCATEL ONETOUCH WATCH

A smart watch is one thing. A smartwatch that costs US\$149 (\$205) is another. A smartwatch that works with iOS and Android is yet another. The Alcatel

OneTouch Watch is all of those. It runs on a proprietary OS that can play with phones from Apple and Google, and is appropriately nosy when it comes to your wellbeing, keeping several eyes on you with a heart-rate monitor, accelerometer, gyroscope, altimeter and compass, as well as sleep-tracking, steps, distance and calorie monitoring. It'll receive notifications and control your tunes, the battery lasts 2-5 days, and four finishes are available: dark red and black, white, chrome, and metal-white. If this budget wristputer delivers on its promises, it could be the one that brings smartwatches to the masses.

alcatelonetouch.com



The OneTouch's low price comes at, er, a price. It won't work with Google Now's voice commands and the extent of iOS notification support is still up in the air.



■■■
HANDS ON
JOHN STEWARD
STUFF CONTRIBUTOR

Rather than swiping straight at the OneTouch's screen to bring up its menus, you tap it at the bottom first. Tapping the right spot can be hit and miss, possibly because the watch is a touch smaller than Moto's 360. Still, that'll be welcome to those put off smartwatches thus far by the slight chunkiness of their bodies.

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Stuff TO DO

Who says Singapore is boring? If you've ever sat around thinking there's nothing to do, you just haven't bothered to look





Hafizah Osman
news writer

TAKE FLIGHT WITH IFLY SINGAPORE

Instead of jumping out of a plane, you could always choose the safer option

Although I've lived overseas for a good seven years of my life, I've never skydived, went paragliding, or involved myself in any sky activities. Don't get me wrong, it's not that I'm scared of heights; my fear lies in something going wrong and me taking the tumble from a height that I can't save myself from.

So when I came across iFly Singapore, it solved my problem. There isn't a need to take a plunge from crazy altitudes so I have some control over my life and I still get to experience free-fall conditions. Now that's a win-win situation.

But it's not any easier as compared to an actual skydive — there's some technicalities you'll need to know and professional training you need to get involved in before you literally take the leap from the world's largest indoor skydiving wind tunnel (confirmed by a Guinness World Record).

LOTS OF PREP

First, there's a video to watch, explaining the basics of what iFly's all about and what you need to know before you advance to the next stage of it. For obvious reasons, if you're preggers or have had any neck or back injuries along with some other criteria, you're not allowed on the flight.

The video goes through some hand signals to remember, because the gusts of wind through the flight chamber are noisy and strong (ranging between 160 to 190kph), so if you attempt to open your mouth to talk, the wind will mould your cheeks into funny faces. So to prevent all that trouble, and if you or the instructor's got to communicate with each other, hand signals are the best way to go about it.

Once that's over, the trained and certified instructor appears through a door — very much like a scene from Armageddon (and the instructors are just as hot too). They go through the body positioning you'll need to be in during the flight. Else, you're just going to sink or flap all over the place.

You need to be properly attired as well — you'll be wearing a one-piece jumper, helmet, protective eyewear, and you need to bring your own covered footwear. But if you happened to be in Sentosa and it was a spur of the moment decision, fret not. They do have shoes to loan.

LEAP OF FAITH

You're then off to the wind tunnel. You wait on your turn before you are summoned in. Once you get in, it's literally a whirlwind. The instructor will be in there with you, guiding you through the entire flight. You get two rounds at this, which you actually need because the first feels like a trial to get the feel of it while you truly experience it during the second flight.

If you wish to, you can go for a third round on the two-skydive package at an additional cost, where the instructor flies with you higher up the wind tunnel. The whole process was exhilarating and I certainly felt like I was defying gravity. There was only one thing I didn't like at the end of it — taking out the tightly knotted tangles from my hair.

After this, I don't think I'll ever need to partake in any more sky activities. I even got a certificate as proof. iFly, and now you can too!

iFly Singapore

Address: 43 Siloso Beach Walk, Sentosa Island, S(099010)

Operating hours:

Mon, Tues & Thurs–Sun: 9am–9.30pm

Wed: 11am–9.30pm

Pricing: from S80 for two skydives

Website: iflysingapore.com

Tel: 65710000







Elissa Loi
features writer

DISCONNECT FROM THE WORLD IN A SENSORY DEPRIVATION TANK

An out-of-this-world experience for athletes, creatives, or the super stressed-out

Tucked away in a corner of quiet Waringin Road is a bare space of raw concrete and stripped-down furniture and, save for a logo on the front door that identifies the place as Palm Ave Float Club, nothing else lends a clue to what this place is for.

Unbeknownst to curious passersby, the minimalist feel perfectly represents what this place is about – removing all decorative distractions and encouraging you to focus on what is left. Take the room as a metaphor for the body and you'll understand Palm Ave Float Club's purpose, which is to refocus you by resetting your mind and body through the floating experience.

How? The answer lies in the heart of the hulking sensory deprivation, or rather, isolation tanks that lie within each of the space's three rooms.

TANK TECH

The tanks are glowing sci-fi centerpieces in each room, looking very much like extraterrestrial pods from your next Ridley Scott blockbuster. While most things these days serve to overstimulate your senses, these tanks exist to do the complete opposite, and that is to alienate you from any external environment element as they're light and soundproof.

The water in the tank itself is kept at the temperature of 34 degrees Celsius – which is the sweet spot for most people – and the addition of Epsom salt increases the salinity of the water to keep you afloat. You won't even emerge a

wrinkled prune after a 90-minute session, and with two different filters that use UV and H2O2 to keep the water clean between sessions, you can rest assured of their hygiene too.

FLOATING 101

Before the session begins, step into the adjoining shower to rinse the oils off your skin, dry off, put on the earplugs provided, and step into the pod. All you need to do is pull down the overhead door and lean back to begin floating. It's almost completely effortless, and you couldn't sink even if you tried.

As long as you relax your body, you won't get water on your face, unless you're thrashing about inside (why would you even do that?). Music will play for the first ten minutes of your session, with buttons on each side of the pod – one to toggle the lights and another to signal for help in case of emergency (which really shouldn't happen because you can just lift the hatch to escape the pod) – to control your session. A spray bottle of clean water and a towel are also on hand for you to clean your face should you happen to get any water on it.

THE EXPERIENCE

Some people have described the experience as life changing, while others have simply found it relaxing, but it's been said that floating in an isolation tank is a bullet train to a meditative state of mind. In the name of all things science and Stuff, two of us subjected ourselves to the quiet of their minds in order to provide you with unbiased accounts of the experience.

Palm Ave Float Club

Address: 20 Waringin Park, S(416333)

Operating hours:

Mon to Sun: 10am–10pm daily

Pricing: from \$70 for a 60 minute float

Website: palmavefloatclub.com

Tel: 9151 6004

DOs

■ Completely lean back. It's natural to stiffen your neck to keep your head out of the water, but you'll soon realise the Epsom salt does the floating for you.

■ Focus your breathing. If you meditate, it helps. If you don't, just try to empty your mind and relax.

■ Be in the moment. Might sound like a load of new age hogwash, but how often can you exist in such a quiet, focused state? Next to none, right? So make the most of it.



Elissa Loi
features writer

THE UNBEARABLE LIGHTNESS OF BEING

I had no idea what to expect from the experience. But upon lying back in the water and listening to the music piped through, thoughts of work and life immediately flooded my head. I had to make the conscious effort to still my mind and focus on nothing but my breathing. Who knew it'd be this hard to do nothing?

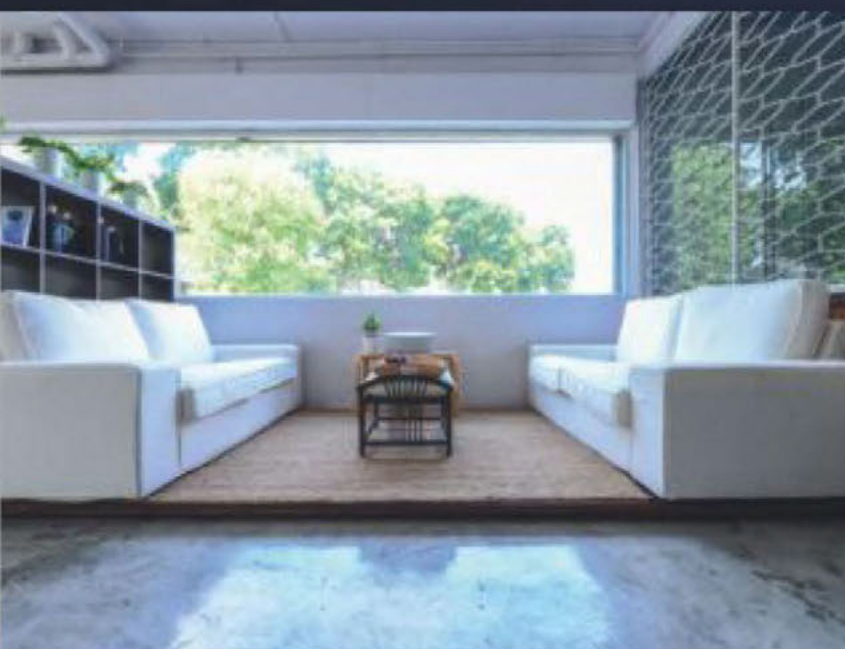
Floating was an experience in itself, almost like life back in the womb, undisturbed until my foot made contact with the edge of the tank and jolted me back into reality. Or when my body unaccustomed to lying so still experienced a muscle spasm that forced me to restart the centering again. Once in a while, I'd get the sensation I was drifting quickly in a particular direction and would open my eyes to check if I really was, but as I got used to it, I decided to embrace instead of fight the pull. The odd thought forced its way back to my mind once in a while and after yet another time of having to refocus myself, I thought "How the heck am I going to get through the rest of the hour like this?"

That was my last thought before I drifted into sleep.

Despite not fully experiencing the potential of the float, that nap in the pod was one powerful power nap, dreamless and restful. And while waking up usually involves reluctance and repeated yawning, I felt immediately invigorated and clear-headed.

Was my life changed? No. Would I do it again? Definitely.

That 45 minute nap felt better than most 8 hour sleeps I've had. I might have to think about switching my bed out for one of these.



Ian Paynton
publishing manager

AM I ABOUT TO LEAVE MY BODY?

I'm naked. Floating in a sensory deprivation tank, with only my consciousness to entertain me.

I thought I was going to get bored quickly or feel claustrophobic. But this isn't the type of place to get bored in. It's the type of place to get lost in.

Who knows how long it's been since I closed the lid to embrace the pitch-black unknown. Five minutes? Ten minutes? An hour? I do know that I've not wanted to check my phone, or have any connection with the outside world. This is perfectly peaceful – a real stress-buster. Is it what it's like to be lost in space? Or am I dead?

It's only when I begin to solely concentrate on my breathing that it happens. I've never felt this before; an energy emanating from what could be my pineal gland. I can see it, too. It's pulling me in. There's a bright hole about a foot away from my face, almost asking me to go with it.

I want it to take me. But like flash thoughts of grandma during sex with your dream partner, a stray worry about work kills my vibe. The intense energy subsides and I can't get it back.

With practice I think I'll get there. Get where? I don't know. I refuse to research it. But it feels like it could be quite the experience.



Bang Ong
contributor

BOUNCE YOUR BLUES AWAY AT THE TRAMPOLINE PARK

You don't need magic potions to get high, just get Amped

In case you were confused, by magic potion I meant Gummiberry juice (friends don't let friends do drugs, people!). You know, from that Disney cartoon *The Gummi Bears*? The magic potion that gave the Gummi Bears their powers of being... really bouncy?

Gummi Bears? Ring a bell? No? Okay never mind, I'll take my outdated 90's cartoon references elsewhere.

When I was a kid I loved to jump around. Inspired by tales of ninjas and wuxia, I'd always imagined that one day I'd be doing flips on my way to school or flying over high walls in a single leap (to escape said school). Then I got older and fatter, so jumping up and down became not so fun for my joints and ligaments, and I thought my dreams were over... Until I stepped into a trampoline park.

Stepping on a trampoline feels really odd at first, but in a good way. The trampoline absorbs around 80% of the impact when you land, so it's as if the ground beneath you were suddenly made of jelly. But soon you learn how to steady yourself and then you can start bouncing up and down.

Being thrown up by the snap of the trampoline gives you enough momentum to float a little bit in midair, so you can experience the "zero-gravity" feeling. How high and how long you stay in suspended flight all depends on how hard you push against the trampoline as you land.



WANNA GET HIGH?

Don't be surprised if you start laughing uncontrollably; the feeling of your insides suddenly jumbling up and around is a largely foreign and exhilarating experience – kind of like being tickled from the inside. My attempt to curtail my laughter resulted in a maniacally restrained chortle as I bounced across the park, prompting parents to instinctively shield their children in my wake.

In many ways, the trampoline park is like a rollercoaster ride, but without the rollercoaster. You soar and tumble and fall through the air, energised by both your fear and the joy of flying one bounce at a time. So just like a rollercoaster, bouncing around the trampoline park gives you a kick of dopamine and endorphins which makes you feel pretty darn good.

These feel good chemicals are activated almost immediately when you start jumping, and the sensation is quite similar to a runner's high, except you don't have to run for half an hour before you – pardon the cliché – get high on life.

EXPECT A WORKOUT

Thanks to all the endorphins, you might spend your hour at the trampoline park feeling like a million bucks only to realise at the end that you've fulfilled your exercise quota for one lifetime. Jumping around is tiring stuff, and even with the trampolines absorbing the impact of the landing, your body can pull several G's every time you bounce from one trampoline to another. The day after my first session at the park my torso ached as if I had spent the whole night doing sit ups and my butt felt like it was catching fire every time I had to squat down.

So if a workout is what you're looking for, you won't be disappointed. If jumping around on your own isn't doing it for you, you can always join the fitness or acrobatics classes that are conducted at the park. There are claims that you can burn a thousand calories in a session of trampolining, but you can do that with a number of intense exercises (though they might be less fun).

A fact to note however is that NASA used trampolines to rehabilitate and rebuild the atrophied muscles of their returning astronauts. Something about NASA just lends credibility by association... probably the fact that they send people into space.

IT'S FOREVER, MORE OR LESS

When I'm at the trampoline park it feels as if I'm at a real park, except people are careening through the air all around me. There are parents with toddlers, pre-teens, teenagers and old fogeys (me). Grandparents come with their grandchildren and play together on the bigger trampolines.

There seems to be a primal part of human nature that really gets a kick out of being thrown up in the air – however slight it might be. Even the older folk whose feet never left the surface of the trampoline couldn't help smiling and cackling as they remembered how it was like to have carefree childish fun, as the weight of the years was lifted (however momentarily) from their aged bodies by the gentle rebounds.

Trampolining used to be the privilege of the few – either gymnasts or landed-property owners with space for a trampoline at home. With the trampoline park, practically anyone who can walk can get to experience the fun of bouncing around, and at an affordable price too.

On top of that the park offers a lot more freedom than a backyard trampoline; instead of being limited to one, you can traverse a whole hall of connected trampolines – even on most of the walls. Perfect if you'd ever fancied becoming a human pinball.

The first Trampoline Park debuted in Singapore about a year ago. Now Amped – the company that runs the operation – has two outlets, one in Katong and the other in Jurong.

The one at Jurong charges one dollar more because it's air conditioned. The two parks are also structured differently, with padded walls to scale at the Katong branch, and pyramids at the Jurong one. If the commute isn't an issue you should try both branches (just maybe not on the same day).



AMPed Singapore

Address: 369 Tanjong Katong, S(437126)
/ 200 Jurong East Avenue 1, S(609789)

Operating hours:

Mon: 10am – 7pm / Tue: 3pm – 10pm
/ Wed to Fri: 10am – 10pm / Sat: 9am – 10pm
/ Sun: 9am – 9pm

Price: from \$9

Website: amped singapore.com

Tel: 8669 4894 (Katong), 8126 3801 (Jurong)

TIPS TO GETTING HIGH

■ The trampoline parks accept both online booking and walk-ins, but the former is recommended because each session (that starts on the hour) is limited to 30 guests. There are also frequent private events, so it's good to at least check for their availability online before heading down.

■ Before you try anything fancy, get the staff to teach you the basics (such as rolls and drops). Especially if you intend to try flips. It's after all a physical activity, and you can get hurt if you go looking for it.

■ Go online and check out some basic gymnastics and trampolining videos to get an idea of what you can do.

■ Normal socks might be a little slippery, so it's a better idea to buy the friction socks the park provides (\$3). They'll be useful in other slippery situations too.

■ Take it easy so you can get a feel for the trampolines if it's your first time at the park. You don't want to immediately barge in and twist an ankle or face-plant right at the beginning. Take your time to warm up and know your limits.





Bang Ong
contributor

SURF OFFLINE IN SINGAPORE

Get off your computer and go flowboarding at Wave House Sentosa

Ah surfing, that American pastime that inevitably brings to mind Keanu Reeves and/or the Beach Boys.

Not much of that happening on our sunny shores with their gentle, well-behaved waves. But for what nature cannot provide, science always has a solution. Enter sheet wave technology and flowboarding – the technological innovation which allows people to surf without the inconvenience of having to find actual waves.

WAVE TECH

Sheet wave technology is exactly what it sounds like: water is pumped out at high velocity to create a 3in sheet of water, with enough force to lift you and your board off the floor.

The fast-flowing water effectively becomes a stationary, never-ending wave as it mimics the motion of the ocean, so to speak. Thanks to this bit of water-bending, surfing in Singapore no longer exclusively refers to finding free entertainment on the internet – and visiting Stuff.tv, of course.

WELL, NOT QUITE SURFING

Riding a board on a sheet wave machine (called Flowriders) is called "Flowboarding". Although it is the closest thing we have to surfboarding, it's still not quite the same.

And that's a good thing.

First of all, the constant jet of water means that you don't have to paddle out to try and catch a wave. Once you're ready, just hop on the ride and go at it. When you wipe out (which you will), you get washed out to the exit zone, where you pick yourself up so you can get in line and wait for your next turn. It's basically surfing minus the prep, like getting to eat your cake without have to bake it.

Technique-wise, flowboarding is also its own animal. The shorter board means a greater level of dexterity, and the sheet wave comes at you at a set angle, so riding on it is like going down a never-ending slope. The best analogy for the experience of flowboarding is probably downhill surfing on a skateboard (sans wheels) on an endless wave.

Another version of the sheet wave machine is aptly named the Flowbarrel, as the shape of the surface curves upwards to force the water flow into a barrel shaped wave, allowing you to surf within the barrel – after some practice, obviously.

GETTING THE HANG OF IT

If you've had experience with any kind of board sports, you'll definitely have an easy time getting used to flowboarding. Beginners can hold on to a rope as they are eased onto the water with their boards, so it's easier to get used to moving the board around instead of spending most of the time learning how not to fall off.

Falling off the board is a mini water park ride in itself. You bounce off the padded surface underneath the sheet wave before getting carried away by the jet stream of water. Wardrobe malfunctions do occur occasionally due to the force of the water.

If stand-up flowboarding isn't really your thing, consider bodyboarding. Bodyboards work really well on the flowriders, and being closer to the water gives you a lot more control; a great alternative for beginners who aren't too good at balancing.

TRICKY BUSINESS

Once you've mastered the basics, it's time for you to try some tricks! Simple stuff like carving on the water (pushing down onto the board at alternating angles) soon lead to 360-degree spins. If you've got a skateboarding pedigree – why not try an ollie or a shove-it? The great thing about trying tricks on the flowrider is that you have a nice padded surface to cushion your fall when you wipe out meaning less trips to the A&E department.

If that's not exciting enough for you, you can always try riding the strapped boards on the Flowbarrel. With the flowboards strapped to your feet, use the upward rush of the water jets to soar into the air, and maybe even attempt flip if you're mad enough.

Just remember, the bigger the trick, the harder the landing; even the cushioning of the water and the padding below aren't enough to leave you unscathed if you land on your face.

TIPS

■ Dress appropriately. Wardrobe malfunctions are a real and very present danger. Ladies might want to wear a rashguard and boardshorts over their swimwear.

■ Fall the right way. When falling off the board, brace as if you are falling on solid ground, not into water.

■ Watch for the board when you wipe out. Steer clear of it!



Wave House Sentosa

Address: 36 Siloso Beach Walk, Sentosa, S(099007)

Operating Hours: Mon to Sun:
10.30am-10.30pm

Pricing: from \$35 an hour

Website: wavehousesentosa.com

Tel: 6238 1196





Hafizah Osman
news writer

UNRAVEL THE MYSTERIES OF A REALITY ROOM ESCAPE GAME

Work those brains hard, you're going to need them through every minute of this game

Getting locked up in a tiny room of between 2 to 10 people might be daunting to many of you, especially those with claustrophobia, but that's what a reality room escape game is all about. It's not for the faint-hearted nor is it for those of you who can't stand mind-boggling mysteries.

Being the very inquisitive creature that I am, I immediately jumped on the opportunity to try out the escape room game when the chance came by. I grew up reading all those Famous Five and Nancy Drew books, so I was quite complacent about the process and thought going through it would be a breeze. I was so very wrong.

But before you read any further, I'll put out a disclaimer – there are some elaborations in this story (I'll try not to murder the suspense as much as possible), so if you want to experience it for the first time without any indication whatsoever as to what's coming, you shouldn't read any further.

FIRST STEPS

The first thing you have to note – there are plenty of these escape room themed games that have popped up all around Singapore – and they're all not owned by one single vendor. You've got those offered by Singapore Xcape, Lockdown.sg, Room Raider, Freeing SG, as well as Exit Plan, and that's just to name a few.

They all have various themed games, catered for various difficulty and scare levels, as well as for different group sizes so every experience will be poles apart. I went for "The Unforseeable Pyramid" game offered by Freeing SG, only because I was doing it with a bunch of my younger cousins and needed one that wasn't as scary.

You've got to make your payment beforehand, along with filling in a form with personal details of every single person joining you for the game (we don't quite really see the purpose for this). Then one of the staff ushers you into the room.

TIME MANAGEMENT IS KEY

As you enter, you're made to place your bags and smartphones in a corner. It's obvious that the area's partitioned (and locked) into different zones, which you'll need to unlock and go through at different points in the game.

The staff goes through the most basic information – where and what you need to start off with, the consecutive and subsequent partitioned areas you'll need to access, and the all important button to call in case you're stuck and need help.

Usually, you're only given one clue through each game, but I think considering the age group I was with, we were allotted unlimited clues. The game was timed for 45 minutes, which you really, really have to manage to the last second if you want to get through the whole thing.

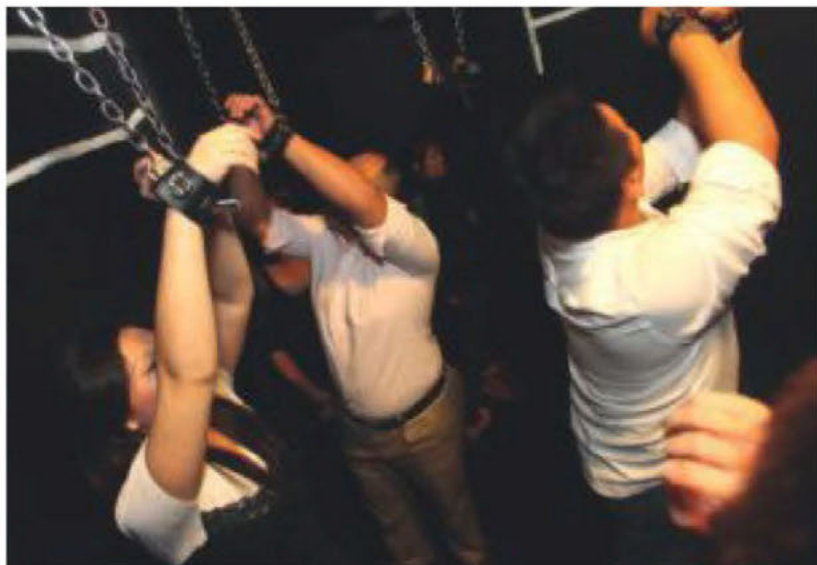
PUSHING THROUGH

After going through the requirements, the staff leaves the room, leaving you and your group mates to literally figure the whole thing out by yourselves. I wished there was a bit more guidance and instructions given to us – the first set of clues weren't all to be used to unlock the second door, which we didn't know and were using them too early.

Obviously that meant we were wasting precious time trying to figure the combination that let us through to the next zone, and our persistent, unyielding natures didn't allow us to give in and call for help (which we had to eventually after we realised not doing so is going to result in us being stuck where we started off).

During our cry for help – which was also the moment we knew about the clue thing we mentioned above – the staff member came back in and guided us through the clue to the next zone.

In zone two, we started reading too much into our surroundings and took anything and everything as a clue; there was a ticking sound playing that we thought was morse code and went frantic trying to decipher it,





Freeing SG

Address: Bugis+, 201 Victoria Street,
#07-04 to 07 / and The Cathay, 2 Handy
Road #03-04 to 05

Operating hours: 11am-12 midnight daily

Pricing: from \$22

Website: freeingsg.com

Tel: 6636 9655 (Bugis+),
6737 7888 (The Cathay)

when it had nothing at all to do with the game besides setting the mood.

Of course, this resulted in us calling for help again, and we were told what clue leads us to the next area. One thing you'll need to take note of: there are clues all over the place, so sometimes it's not all about just unlocking hints but rather looking around the area for other physical clues.

ABRUPT END

The staff had to guide us yet again into the third area. By this time, we had about 10 minutes to complete that area and head back to the first room to complete another puzzle before finishing the game.

By this time, we were pretty much frenzied and desperate to complete the puzzles, but it was too much a task for us considering the time we had left, so we were left to our unfruitful

attempts at getting through to the last zone.

The timer ran out and the staff came back in to explain where we were going wrong, the clues and answers we missed out on, as well as quickly highlight what we needed to do in the consequent puzzles to complete the game.

But by then, I was totally spent and the procedure the staff member was talking about was so complicated I couldn't even grasp what he was saying. So after the three calls for help and futile attempts at the puzzles, we left slightly disappointed with ourselves.

Although we must add that even though we didn't manage to successfully complete it, we were totally engrossed in the game through every millisecond and had a ball of a time. I'm determined to try it again, to see if I can have more control over the situation and beat the timer the next time around.





Hafizah Osman
news writer

TAKE A LITTLE TRIP AROUND MARINA BAY ON A SEGWAY

If you're not up for a tour of Marina Bay on foot, why not try the Segway?

From my experience with iFly, you would have probably figured out that I am nothing close to being a thrill seeker.

Yes, you might roll your eyes and say "what's so thrilling about getting on a Segway", but for someone who doesn't know how to ride a bicycle (I can't believe I'm putting this out in public) and got a nasty scar from attempting to learn how to rollerblade, the idea of Segwaying around town with a newly launched Gogreen tour was a big deal to me.

So you can imagine the thoughts that were running through my mind before my tour even started. It was along the lines of this: "I'm going to fall off the two-wheeler and crack open my skull" and "I'm probably going to end up losing some teeth on this machine".

PRE-PREP

And the pre-tour briefing didn't make my nerves feel any better. I had to first sign a bunch of declarations ensuring that I'm over the age of 18, never had any previous back injuries, or wasn't preggers. They're quite high tech about this too — there wasn't any paper and ink involved, everything was done on an iPad.

I had to then watch a short video of stick men instructing me of how to safely use the Segway; pretty cute and informative but there was a lot of tumbling stick men on that video. Then came the protective wear — helmets, kneepads and elbow pads. I felt all geared up for war.

Once we got that out of the way, the group headed on outside where a group of instructors went through the basics of working the Segway. We were taught how to balance ourselves on the Segway, how to move forward, back and to the sides, as well as what not to do when on it.

Obviously, as soon as I got on the Segway, I felt like it was moving too fast even though its

speed was less than 10kph. Thankfully the guides were helpful in providing tips of how to operate the machine.

There's always at least three instructors on each tour, so no one gets left behind and everyone gets the attention they need. These trained and certified professionals had some one-on-one Segway training with us, making sure we were prepared for the ride.

MAKING THE MOVE

Once we got the hang of working the Segway (it didn't take me more than 10 minutes, so you'll pick it up quickly) we were breezing off. I was on the Signature Marina Bay tour, which meant that I was shown seven tourist spots around the area, but if you're after the cheaper and shorter Highlights of Marina Bay tour, you'll be brought to four locations.

The guides were well informed about the history of Singapore, especially the sites we were taken to and provided us with a brief at every pit stop. Ask away any question you have and they will have an answer for you. Besides that, all you do on the Segway move is feel the wind, and take in the breathtaking sights of Marina Bay.

Also, there were enough rest points in between the two-hour long tour (that's what I was on), so I didn't feel exasperated having to stand on a moving platform the entire way.

Towards the end of it, I was pulling a few moves on the wheeled beast from Paul Blart: Mall Cop and was cheering on the Segway to move faster. Final verdict: I had a ball of a time and would do it again any day. And if you're a die-hard Segway fan, you can even purchase one of these from Gogreen for \$13,800 (i2 model) or \$14,800 (x2 model) — it's surely cheaper than owning a car here.



Segway tour details

Address: Marina Bay City Gallery, 11 Marina Boulevard

Operating hours:

Tue to Sun: 10am–7pm (Highlights of Marina Bay tour)

Tue to Sun: 9.30am (weekends only), 12pm, 2.30pm, and 5pm (Signature Marina Bay tour)

Pricing: from \$48

Website: marina-bay.sg

Tel: 6329 3535

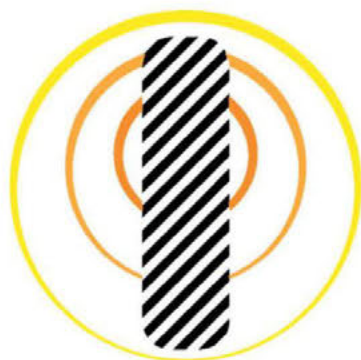


The case for Serial

*(and the podcast
renaissance)*

Illustrations Bentheillustrator.com
Words Tom Wiggins

Podcasts have been quietly growing for years, but one show has turned them into a true cultural phenomenon. Stuff investigates the huge success of Serial



f 2011 belonged to Ned Stark in *Game Of Thrones*, 2012 was all about Lena Dunham's quartet of *Girls*, and 2013 was dominated by *Breaking Bad*'s meth-cooker extraordinaire Walter White, 2014 was the year of Hae Min Lee, Adnan Syed and Sarah Koenig. That's because the year's must-watch TV show wasn't on Sky Atlantic, HBO or Channel 4. It wasn't even a TV show — it was a 12-part podcast called *Serial*.

Serial is a re-investigation of a real-life murder case that unfolded in Baltimore, Maryland in 1999. Hae Min Lee, a 19-year-old student, went missing on 13 January and was found dead

nearly a month later. Her ex-boyfriend Adnan Syed was convicted of murder and remains in prison to this day.

But did he do it? That's the question host Sarah Koenig tries to answer, by re-examining evidence (or lack thereof), interviewing Adnan regularly on the phone, speaking to his classmates and family, talking to Hae's friends (her family never respond to Koenig), and even retracing the steps of the accused to check that the prosecution's timeline checks out.

It's a project that's inspired feverish devotion among its listeners — a two-million-strong jury for each episode, all desperate to discover the truth — and has signalled an exciting new dawn for podcasts. *Serial* reached five million downloads faster than any podcast in history, and had hit 20 million total downloads before the final episode had even been uploaded. There are pages and pages of Reddit threads dissecting the case and offering new theories; people had listening parties for the finale; *Saturday Night Live* parodied it; and there are even other podcasts devoted to *Serial* punditry. So what is it exactly that's caught the imagination of so many?

The podcast grows up

"It feels like someone's suddenly said: 'Right, let's do an HBO on podcasts'," says Scroobius Pip, rapper, spoken word artist and host of the *Distraction Pieces Podcast*, in which he's interviewed everyone from Russell Brand to Alan Moore. His show was, for one week, more popular than *Serial* on the iTunes chart. He even offers to send us a screengrab to prove it.

Tongue-in-cheek rivalry aside, Pip's right. *Serial*'s scope and production values are way beyond what most listeners are used to. It has both a bespoke soundtrack composed by Nick Thorburn and a synth-heavy incidental score by Mark Henry Phillips. Aren't podcasts supposed to be DIY affairs recorded in sheds and bedrooms with whatever makeshift kit the hosts can lay their hands on?

"I bought a recording kit that I can carry under my arm for about a grand," says Pip, "and I've gone to Russell Brand's house or Zane Lowe's or Simon Pegg's and we just talk for an hour. There isn't a theme. The interviews become more like chats — more relaxed, personal and intimate. You're not getting people in promo mode." *Serial*, on the

other hand, is one story told in episodic format week by week – although now it's over, latecomers can binge on it just like they would *House Of Cards*.

Koenig is a former reporter for the *New York Times* and *Baltimore Sun* so developing a story over time is nothing new to her, although perhaps none she worked on in print would have had a gestation as long as *Serial's*. Koenig began working on it back in 2013, with the first episode released on 3 October last year. At that point she didn't know how it would end. It was a textbook whodunnit for the Twitter generation, although posting any spoilers would get you hounded out of Tweet Town in far fewer than 140 characters.

While this serialised storytelling is, in Koenig's words, "as old as Dickens" – a reference to the way Charlie D used to write a chapter at a time and release them individually, making books more accessible to a less affluent audience – it felt entirely new for podcasts. *Serial's* parent podcast (and radio show) *This American Life* has been telling one-off stories since 2006 (or 1998 if you include its previous life on RealAudio and Audible.com), but nothing with this kind of long-form narrative arc.

Pip also has radio on his CV – but he isn't planning to do any more. "Last year

I stopped my radio show, which I'd won awards for and things like that, but it was just the thought that podcasts are going to take over.

Why would you tune into something when you can download it to your phone and not worry about losing signal when you go through tunnels on the train? I was a fan of podcasts anyway but I definitely think it's the future. It's a wonderful format."

Sounding the Bugle

And he's not alone. British stand-up comedian Andy Zaltzman parps on one half of *The Bugle*, a satirical podcast he began in 2007 after his co-host John Oliver moved to New York to work on *The Daily Show* (before landing his own show on HBO, *Last Week Tonight With John Oliver*). Originally funded by *The Times*, *The Bugle* was a way of carrying on the partnership the pair had formed on Radio 4 shows such as *Political Animal* and *The Department*. *The Bugle* has half a million listeners every month.

"It's a great medium because it's basically given anyone the opportunity to make something themselves," Zaltzman tells *Stuff*. "You can do it ▶

**It's easier to
make something
sound good than
look good**

Andy Zaltzman



A brief history of podcasting

RSS feeds get audio

A new RSS feature lays podcasting's foundations by allowing audio files to be distributed automatically.

Apple unveils the iPod

The company's portable jukebox puts audio in our pockets in a way not seen since the Walkman, paving the way for podcast listening.

The word 'podcast' is coined

Combining the 'pod' from iPod and 'cast' from broadcasting, writer Ben Hammersley coins the term in *The Guardian*. It sticks.

Apple adds podcasts to iTunes

Version 4.9 of iTunes allows users to subscribe to and download podcasts with a new section created for them in the Store.

Ricky Gervais gets on board

Signs of mainstream adoption appear with *The Ricky Gervais Show*, which soon becomes the most successful podcast ever.

Serial smashes records

Out of nowhere, *This American Life* offshoot *Serial* is released. With over 20m downloads, many call it the cultural event of 2014.

2001

2001

2004

2005

2006

2014

Best podcasting apps

Podkicker from \$free / Android

The free version of this unfussy podcatcher does everything you need for free, but it's worth shelling out for the Pro version if you use it a lot as it removes the irritating ads and adds extra functionality.

Acast \$free / Android, iOS

Acast takes a regular podcast and adds 'blings' on top. It's a horrible name for what are essentially links to extra material related to the subject being discussed. Scroobius Pip is already a big fan.

Soundcloud \$free / Android, iOS

This is not strictly a podcatcher as it only allows you to stream; but if you'd rather not fill up your phone, the app is intuitive and there are plenty of podcasts available on it, including *The Bugle*.

Overcast from \$free / iOS

Created by the geezer behind Instapaper, Overcast is another one worth paying more for. You can unlock tweaks to normalise voice volume and cut out silences to speed up listening.



on a very small budget – all you really need is a decent-quality microphone and a fairly basic sound editing programme – and if it's good, and people like it, then you can find an audience. You don't have to go through the laborious process of getting it commissioned, waiting for the little clouds of smoke to come out of the BBC chimneys or however it is they do it."

That kind of creative freedom is practically unheard of on radio or TV, so to get it on a platform with such world-straddling potential as iTunes is obviously an attractive proposition. "What you always want as a comedian is that total free rein, which is much harder to get in radio or television," says Zaltzman. "You have it in stand-up and you have it in podcasting – and it's far easier to make something sound good than look good."

Go it alone

It was also a big part of Scroobius Pip's decision to go it alone. "There's no longer any logic in having a boss," he says. "If you've got a boss then you've got to clear any guests or controversial topics. When it's just you and there's no other interference – yet you've still got

that huge platform that previously you'd need something like Radio 1 for – it's kind of crazy to have a boss. If you can hold it together and make it work, why would you be at someone else's will, when you can have that complete control?"

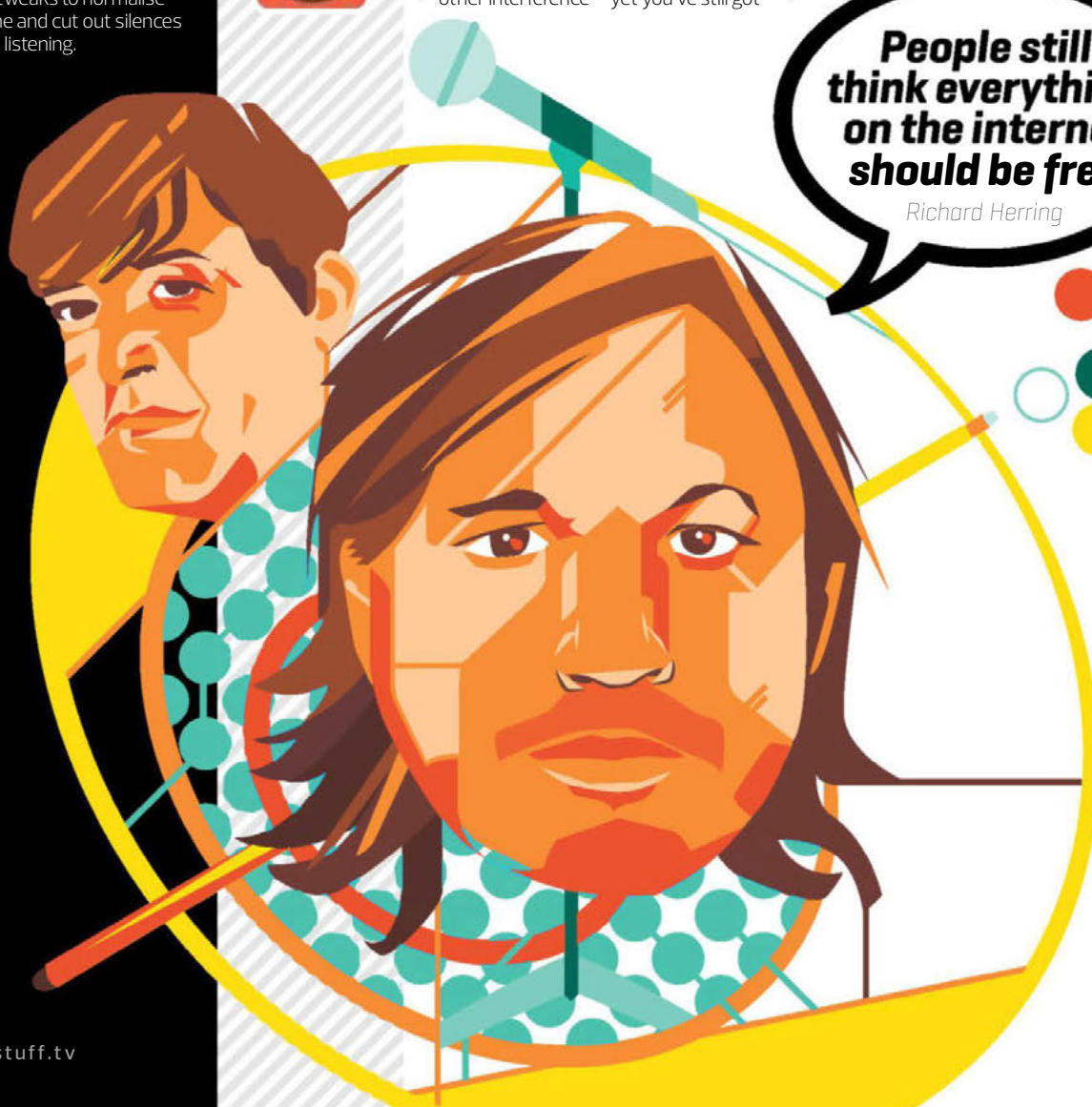
Of course, that's all very well if, like *Serial*, you've got the backing of a radio station (albeit one funded by listener donations) or newspaper, but what happens when the money runs out?

It was episode nine of *Serial* when Sarah Koenig first asked for money, a necessary evil she genuinely sounds uncomfortable doing. Since its beginning each episode had been bookended with adverts for MailChimp – an email service that became almost as much of a talking point as the case itself, thanks to the mispronunciation of the company's name by a member of the public in the opening ident. But evidently that, plus the support of WEBZ, wasn't enough. How do you fund a year's work when you're giving it away for free?

To keep *Distraction Pieces* going, Pip relies on advertising. With its one-man-and-his-microphone approach, he'd be

People still think everything on the internet should be free

Richard Herring



There's no logic in having a boss when you can have complete control

Scroobius Pip

the first to admit that it's not exactly among the big-budget blockbusters of the podcast world, but nor does he feel its integrity is compromised: "Slaying over a song as an art and then getting into a recording studio feels different; I hope to get a direct payment for that. With the podcast I'd rather the payment comes from a corporation and people get to have it for free, rather than asking them to chip in. It's all a means to an end now."

Funding issues

While *Distraction Pieces* certainly doesn't shy away from controversial topics – he's already had revolutionary Russell and outspoken rapper Killer Mike on the show – for comedians such as Zaltzman and Richard Herring, advertising has been a minefield of potential compromise, particularly since cult stand-up hero Bill Hicks compared it to heavy petting with Beelzebub back in the '90s.

"I'm quite old-fashioned about adverts," admits Herring, who made his podcast debut in 2008 with *Collings And Herring* and has since released nine others, including *As It Occurs To Me*, *Warming Up* and *Richard Herring's Leicester Square Theatre Podcast*, the most popular episode of which has been downloaded 170,000

times. "If you know that I'll say 'I love Ian Harris's Crisps' even though I don't, but he's just given me £10,000, then what does that mean about everything else I say?" he explains.

Both *The Bugle* and Herring rely on donations from listeners and selling merchandise to keep their shows going. "People are still at the stage where they think everything on the internet should be free, so even if you charged 50p the downloads would probably be a tenth or even a hundredth of what they could be," says Herring. "I'm trying to encourage people to make donations of a pound a month, or whatever they can afford. That's building up a smallish fund of money that over time I can use to make other stuff. If everyone who listened to my podcast gave me a quid a year I could make my own sitcom, especially with the cost of producing stuff coming down. At the moment it's about 1% or 2%."

However, both Herring and Zaltzman do recognise the potential power of podcast advertising. "If you do build an audience it tends to be a very committed one, because people listen to podcasts in a very active way," explains Zaltzman. "They have to seek it out, download it and consciously listen to it rather than it being on the radio in the background, so with smaller listener numbers you

Stuff's top podcasts

Stuff You Should Know

No relation to this *Stuff* you're reading now, *Stuff You Should Know* is not a million miles away from *QI*. That is, a perfect source of pub chat (if you can get people to stop looking at their phones).

Retronauts

There's nothing gamers like more than a dose of nostalgia and *Retronauts* delivers in big, 16-bit spades. It's not all obvious choices either: there's plenty here for even the most hardcore button-basher.

This American Life

If you liked *Serial* it's worth climbing its family tree and delving into *This American Life*. The stories are over in an episode but they're often unexpectedly captivating. The Radio 4 of podcasting.

Guardian Football Weekly

Ever since James Richardson (aka AC Jimbo) hosted *Football Italia* in the '90s he's been a football fan's friend. Here he hosts the kind of intelligent footy chat you just don't get from Robbie Savage *et al*.



If you do build an audience it tends to be a very committed one

Andy Zaltzman

get a much more committed audience. If there was a podcast called *The World's Most Brilliant Screwdrivers*, a screwdriver company is far better off advertising there than just on the local radio station."

Podcast-only networks

Of course, these aren't the only options. YouTube has worked hard to monetise videos using those annoying pre-roll ads and splitting revenues with the uploaders, and there's no reason why audio-only sites such as Soundcloud couldn't do the same, or simply place relevant ads underneath the content.

Herring has accidentally created a successful business of his own, albeit one that's also supported by ticket sales for his live shows, a regular column for

Metro and the odd corporate gig, which he justifies by putting the fees towards creating more stuff to give away for free. How else would he be able to release recordings of him playing snooker against himself?

But there are also podcast-only networks springing up out there, such as Brooklyn-based Gimlet Media, which produces shows including *StartUp*, a documentary series about starting your own business, and *Reply All*, which tells stories about things that happen on the internet. There's also Radiotopia, which launched last year after raising over US\$600,000 from a Kickstarter campaign and now produces nine different podcast series.

There are also apps such as Acast, which lets podcasters embed links within the audio timeline to offer listeners more information on topics being discussed. Scroobius Pip already uses the app to add more content to *Distraction Pieces*: "It doesn't change the audio at all but if, say, I'm talking to Russell Brand about Athenian democracy, it'll come up with a link to the Wikipedia page for Athenian democracy. Obviously there's a financial side too. If we're talking about his book there'll be a link there to buy it. It just blows my mind that you can embed so much stuff, so in this hour of audio you're potentially getting three or four hours of reading material."

Casting into the future

While iTunes and Soundcloud are likely to remain the two main places for podcasts to call home, in the search to find a way to make a living from podcasting, other approaches may spring up. How about Bandcamp's direct-to-artist subscription model? While that's designed for musicians, the idea of picking an individual and subscribing to only their output, effectively giving them their own on-demand radio station, is one that could work for podcasts.

In fact, Herring has had a similar idea: "In 1910 Charlie Chaplin was part of a studio but then realised it would be easier to have his own. By charging everyone a tiny amount of money to come and see his films, he was a millionaire within two years. You basically become your own station and I think increasingly that will be the case."

Serial's pleas for donations worked. Through a combination of sponsorship and listeners' contributions, the makers have been able to announce that there will be a season two, although the subject is still unknown. What we do know is that, like a new series of *Mad Men* or *Game Of Thrones*, expectation will be sky high – higher than for any podcast ever before. And don't be surprised if others try to emulate its success. ●

6 tips for recording your own podcast

1

Pick your kit

The beauty of podcasting is that you only really need the essentials. A decent USB microphone, a pair of cans and a computer of some sort will do, but if you want to make things sound a little more professional you'll need an XLR mic, audio interface, mixer and some proper studio speakers.



2

Prep your 'studio'

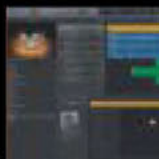
Any hard surfaces in the room that you choose to record in will make sound bounce around all over the shop, so try to find somewhere with plenty of soft furnishings and a carpeted floor. Close the curtains. Ideally, record your podcast in a padded cell at your local asylum.



3

Select your software

Whatever you do, don't splash out loads of money on some fancy audio editing software. If you're using a Mac, Garageband is plenty good enough and has royalty-free music you can make use of too. If you're on Windows, Audacity is no-frills but easy to use.



4

Don't get too close

When you're actually 'on air', don't do a Liam Gallagher and try to eat the microphone like it's a delicious ice cream cone. Six inches away is normally about right. If you've got multiple voices but can only afford one mic, change its recording pattern to omnidirectional.



5

Make guests welcome

If you want to follow Scroobius Pip or Richard Herring's example and record some interviews but can't convince your interviewees to come to you, use Pamela (E27 (\$55), pamela.biz) or Call Recorder (US\$30 (\$41), ecamm.com) to record two-channel Skype calls.



6

Set it free

If you can't be bothered to mess about with an FTP, RSS, XML and other confusing three-letter abbreviations in order to get your podcast on iTunes, Soundcloud is a good alternative. A Pro Unlimited account costs US\$135 (\$185) a year but allows you to upload as much as you want.



CALL OF NATURE

These tech products take their inspiration from the natural world's finest work: designs perfected over millions of years of evolution

[Photography Pete Gardner]



NAKAMICHI DRAGON LILY

Take a moment to admire the sleek form of the Nakamichi Dragon Lily. Its metallic petals envelop a 2.1 digital integrated amplifier and speaker with Wi-Fi, Bluetooth and NFC capabilities. Enjoy its ability to control and charge iThings via USB. Then take a moment to think about its namesake, the dragon lily flower (also known as the 'stink lily') which, upon flowering, produces a smell almost identical to rotting meat, attracting the swarms of flies that help to pollinate it. And be thankful that Nakamichi haven't taken the biomimicry too far.

£240 (\$485) / nakamichi.co.uk



AUDIOQUEST NIGHTHAWK

The Nighthawks may be named after a bird of prey, but their design draws inspiration from a much smaller flying animal. The 3D-printed grilles on these semi-open headphones take their cue from the structure responsible for iridescence in butterflies' wings. Produced by selective laser sintering (SLS), AudioQuest claims the intricate structure diffuses sound and thwarts distortion for a superior listening experience. Add earcups made of 'liquid wood' and cables built on AudioQuest's 30 years of experience and you've got something worth listening to.

[Stba / audioquest.com](http://Stba/audioquest.com)



B&W T7

In nature, the honeycomb's job is to hold together nature's sweet bounty, collected by thousands of tireless worker bees all summer. In a Bluetooth speaker, that same honeycomb shape is at the heart of the micro matrix structure that braces the T7's cabinet to reduce unwanted vibrations. It'll make short work of hi-res audio with its aptX Bluetooth connection and DAC, and keep the party going all night with 18 hours' playback from its rechargeable lithium-ion battery and twin auxiliary bass radiators that promise enough boom to shake your room.

\$589 / bowers-wilkins.co.uk



SUN WALL LAMP

Somehow, buying an alarm clock with a built-in wake-up light in an attempt to brighten your dreary winter mood isn't the same as getting an actual glimpse of our favourite giant ball of burning gas. If relocating to sunnier climes isn't on the cards, this wall lamp is about as close as you'll get, with its stylised circular shape that can be adjusted to a warmer or cooler colour temperature depending upon your level of pep that day. It's safer than inviting the real thing into your home, and more effective than staring into your desk lamp.

Spoa / arnoutmeijer.nl



SOLID GRAY BACKPACK

Often the job of a designer isn't to invent an entirely new thing, but instead to combine techniques and materials that improve the function of a product. That's why, when Solid Gray's designers were looking for a way to make a lightweight but strong backpack, they took their inspiration from nature, stealing ideas from shrimps and the armadillo's segmented armour. They then added a retracting handle, clever compartments for sunglasses and other nick-nacks, plus room for a 15in laptop and interchangeable straps within its 15-litre volume.

€170 (\$105) / solid-gray.com

SOLID
GRAY.



CLOUD

OK, so we're straying away from biology and towards geography here, but it's still Mother Nature's realm and we like the idea of having a cloud indoors. This one is made from felted hypoallergenic fiberfill for that authentic fluffy look, while on the inside is a Bluetooth speaker and light show controlled by an Arduino board. Unlike a real cloud, which rarely obeys commands, this one can be instructed via remote control, switching between lighting modes or responding angrily to its surroundings with a thunderstorm triggered by nearby movement.

US\$3360 (\$4520)/
richarddarkson.com



BIOMIMETIC BUILDINGS AROUND THE WORLD

● Eden Project

The hexagonal domes of this giant greenhouse require no internal supports and draw on the strength of tessellated triangles, a strategy found in the human spine.

● The Gherkin

London's iconic tower circulates cooling air the same way a glass sponge circulates seawater, helping it to use around half the amount of energy of a conventional tower.

● Lotus Temple

One of the Bahá'í Houses of Worship, open to worshippers from all faiths, this temple in Delhi has a nine-sided circular structure and clearly takes its aesthetic from a lotus flower.

● Eastgate

This shopping centre in Zimbabwe uses internal structures inspired by towering termite mounds to aid cooling and ventilation, leading to a reduction in energy usage.

[Words: Joels Whitchorn. Photos: know-uk, David Brazier, Aurelien Gulcher, Vandelzer]

5 OF THE BEST

In-ear headphones

The world of 'phones can be a perilous place, especially at the budget, in-ear end of the market. There are countless options out there... which of them deserve a place in your lugholes?



Soundmagic E10S

SoundMagic's laurels appear to be in no danger of being sat on, as it continues to squeeze every last drop of magic out of the E10S.

The latest change is the inclusion of a one-button inline remote, and an unusual 3.5mm plug with a 'compatibility switch', which makes sure the remote's button works across phones of all flavours.

The sound is better than ever, with the latest tweaks resulting in a smoother delivery. Bass weight is well judged for punch and agility. There's also plenty of detail and a great sense of space.

Stuff says ★★★★★

At this price, these are phenomenally good
Price £40 (\$85) /
soundmagic.com.cn/en

AKG K323XSi

These AKGs are amazingly small and won't stick out of your head even if you have very flat ears. Tiny doesn't mean lacking in substance, though. Build quality is good, the cable's strong and there's a three-button inline remote for Apple users.

Fitting is a little awkward: it's hard to grab them to wiggle them into position. But it's a dynamic sound, with plenty of punch and attack. There are bags of detail, good for articulating every scrape and hiss of that hi-hat. Very occasionally the sound is a little hard at the top end, but it's not enough to ruin the enjoyment.

Stuff says ★★★★★

Don't underestimate these tiny buds
Price £50 (\$105) /
akg.com

Sennheiser CX 3.00

It's kind of a special occasion for Sennheiser. After a string of similar-looking products, we now have something radically different and Beats-like. There are red, white and black options, with the buds displaying just the tiniest bit of bling.

Angled tips replace the straight-body design, which makes the buds easier to fit. They're comfy enough for long-term use.

An excellent seal means good noise isolation. It's a smooth, full-bodied sound, with plenty of weight and punch to the bass. But that bass is also overpowering, with little in the way of refinement.

Stuff says ★★★★☆

A comfortable listen, but not one for subtlety
Price \$89 /
sennheiserasia.com

Maxell MXH-DBA700S

In contrast to the AKGs, these Maxells are rather long, with a trumpet shape that sticks out quite a bit. Build quality is a mixed bag. The buds themselves are housed in aluminium but the rest feels a bit plasticky, especially the one-button inline remote.

The buds boast a hybrid design, with balanced armatures and 8mm dynamic drivers to enhance bass and vocals. Bass is certainly deep: put on Leonard Cohen and you can almost feel the phlegm. It's not a delicate sound, though. Greater clarity and stronger dynamics would help.

Stuff says ★★★☆☆

Great if you like deep bass and not much else
Price £50 (\$105) /
maxell.com.sg

Audio-Technica ATH-CHX5IS

Every now and then a design brings to mind no words but 'WTF'. For starters, these are huge by in-ear headphone standards. And they're difficult to fit, with a design that means they're intended to nestle in the bit outside the ear canal. The idea is to be less invasive, but this means no proper seal and that leads to all manner of issues. Isolation is poor. The sound is insubstantial and hollow. Dynamics are not worth mentioning.

Still, at least there's a one-button remote with a volume slider.

Stuff says ★★☆☆☆

Little in the way of style or substance – don't do it
Price \$58 /
audio-technica.com.sg

Media hoard

Take a substance-induced stroll on the beach with these two or sample some other new releases: a bunny-boiler, a Britpopper or even a bewildering beekeeper...

WATCH

Inherent Vice_cinema

Paul Thomas Anderson adapting Thomas Pynchon was always going to be unwatchable or unmissable. So which is *Inherent Vice*?

Joaquin Phoenix plays Larry 'Doc' Sportello – a beach-dwelling, pot-smoking private investigator with the hair of Wolverine and the wardrobe of Shaggy from *Scooby Doo*. When two people come to him for help – one an old flame, the other an ex-con – and mention the same name, he finds himself in the middle of a what is essentially an old-fashioned story of revenge, disappearances and deceit involving the FBI and mysterious organised crime. And it's played out through a haze of weed smoke hanging over California in the early '70s.

Anderson has picked Pynchon at his most playful. An early scene involving Doc, his attorney Sauncho Smilax (Benicio Del Toro) and Josh Brolin's show-stealing, frozen-banana-eating detective Bigfoot Bjornsen is just one of many laugh-out-loud moments that haven't had a place in his recent films.

After more than two hours, very few of *Inherent Vice*'s many threads are fully tied up (you should expect nothing less from a new PT Anderson film) but those that are satisfy in an unexpectedly heartwarming fashion. The others are lost in the woozy fug left by the trip. But then, that's kinda the point. Tom Wiggins

STUFF SAYS ★★★★★



Selma_cinema

No, not a biopic of Marge Simpson's sister but the story of a landmark period for civil rights. Based on an Alabama march from Selma to Montgomery, led by Martin Luther King (played majestically by David Oyelowo) this is classic awards fodder, but its violence – police attacking unarmed black people – is a stark reminder that the fight continues today. Tom Wiggins

STUFF SAYS ★★★★★

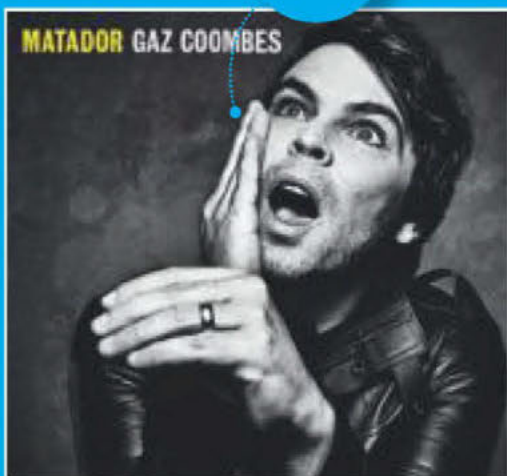


Gone Girl_Blu-ray

David Fincher binds Gillian Flynn's whodunnit into 149 minutes of sexual frenzy, media manipulation and more fake blood than a slasher flick, distracting from various loose ends. Rosamund Pike has us believe she is the ultimate femme fatale, while the plot twists at 1000 thriller-Watts per hour towards a culmination that brings a powerful wave of unease. Natalya Paul

STUFF SAYS ★★★★★

LISTEN



Matador

_Gaz Coombes

Many might expect Gaz Coombes' own material to fall into the post-Britpop trap of standard jangly, singer-songwriter guff, but the former Supergrass frontman's second solo record shows he's capable of writing much more than just the cider-in-a-field anthems for which his old band became hugely popular. In any case, they were always much more than that and the swelling synths, fuzzed-up guitars

and laid-back piano on *Matador* coat the kind of effortlessly sophisticated melodies that filled the band's later records.

Less obtuse than a Thom Yorke album but no less ambitious, alongside the Super Furry Animals' Gruff Rhys, Coombes shows that Britpop wasn't the cultural wasteland many think it was.

Tom Wiggins

STUFF SAYS ★★★★★



No Cities To Love

_Sleater-Kinney

For their first record in 10 years, Sleater-Kinney aren't holding back. There's an urgency to *No Cities To Love* – words almost force their way out and guitars strain at the leash. The trio have channelled their decade of rage into 10 taut, angular punk rock songs that prove they've most definitely still got it.

Tom Wiggins

STUFF SAYS ★★★★★



The Race For Space

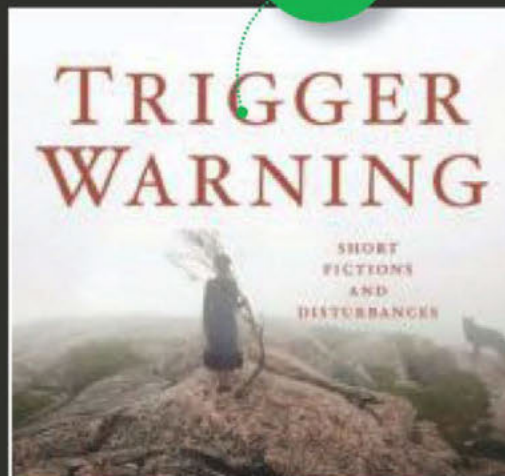
_Public Service Broadcasting

PSB combine trippy grooves and Mogwai swells with samples of spoken word recordings. It's a formula that can get a bit arse-toss, but the conceptual theme of their second album – built largely around the words of Apollo mission control staff – at least gives it an atmosphere all of its own.

Richard Purvis

STUFF SAYS ★★★☆☆

READ



Trigger Warning

_Neil Gaiman

Sorry, comic-book fans: this is an anthology of *Sandman* author Gaiman's short stories. So there are no pictures at all, just words. Small black words, in a dreary font, on a plain white background. Where's the fun in that?

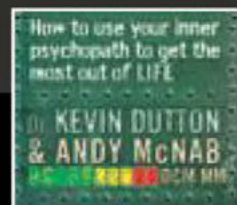
The fun, in fact, is just about everywhere. These are wildly diverse yet consistently engrossing tales with the odd mystical twist but no over-tidy endings: where lesser

writers struggle to tie up all their explanations in the short format, Gaiman is happy to leave questions floating in your brain.

Topics include imaginary girlfriends, Hebridean adventurers, murderous landladies and – in a story that somehow manages not to be preposterous – Sherlock Holmes keeping bees in China.

Richard Purvis

STUFF SAYS ★★★★★



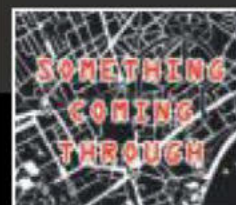
The Good Psychopath's Guide To Success

_Dr Kevin Dutton & Andy McNab

McNab is a 'good' psycho, apparently – free of fear and empathy, but not the full Lecter. Dr Dutton says we can learn from him, but the swears, Danny-Dyer-does-science style grates, and a world with less empathy doesn't get *Stuff's* seal of approval.

Tom Wiggins

STUFF SAYS ★★★★★



Something Coming Through

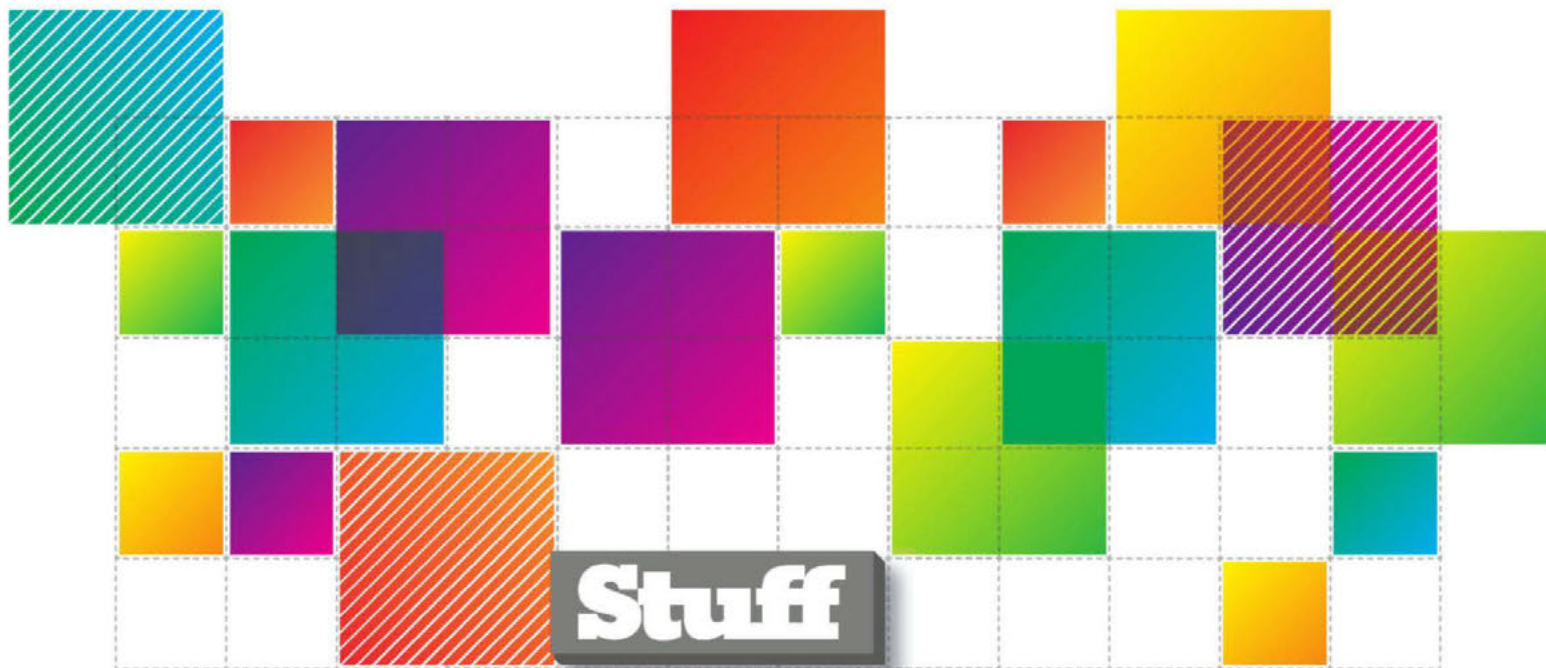
_Paul McAuley

McAuley's other books have been set on other worlds, 10 million years hence, but his new novel begins in a near-future London, where alien algorithms are infecting people's minds. Classic sci-crime elements, a whiff of cyberpunk and some clever ideas make this well worth a read.

Will Dunn

STUFF SAYS ★★★★★

 twitter.com/Stuff_SG



PROJECTS

MAKE. DO. UPGRADE.

	p120 BETA YOURSELF ELECTRONIC MUSIC Well, who needs actual instruments?	p122 PLAYLIST TECHU-MENTARIES Watch away a few hours with top techy films	p124 SUPER GEEK: MACRO PHOTOGRAPHY Tiny but still awesome: take a closer look	p126 5-MIN HACKS IF NOTHING ELSE, TRY THIS...

BETA
YOUR
SELF

ELECTRONIC MUSIC

Bored of stale guitar riffs and generic indie? DJ and *Mixmag* tech writer Gavin Herlihy reveals how to turn your laptop into your favourite musical instrument

THE BASICS

■ Choose your station.

A Digital Audio Workstation (DAW) is the production software you'll use to create your electronic music. Each one has different attributes so do some research. Garageband, Ableton Live and the newer Bitwig are the most beginner-friendly.

■ **Start with a beat.** The most common way to start a track is hammering out a beat with a Music Production Centre (MPC) or a drum machine like Maschine (native-instruments.com). The latter helps you build rhythm loops without a mouse slowing your flow.



■ **Borrow sounds.** Bringing in a new element from the outside world can open doors to your track's direction, so download lots of samples. Bear in mind that the better the audio source, the better your tracks will sound, so get digging through your vinyl collection rather than ripping MP3s from YouTube.

■ **Warm up.** Begin each session by jamming along to your favourite tracks. Playing along to the different elements will help warm your brain up to the task ahead.

■ **Learn from the masters.** Compile a list of tracks you wish you had made. Work out what makes them tick so you can apply these features yourself.

■ **Be minimalist.** Most DAWs contain a mind-boggling array of applications and effects, so keep it simple to begin with: just pick a monophonic synth, a polyphonic synth, a beat-making plug-in and a sampler so you can learn them inside-out.



MASCHINE STUDIO



NEXT STEPS

■ **Avoid clutter.** Don't accumulate lots of plug-ins. They slow down your computer and your learning progress. Instead of flicking endlessly through presets, learn to create the sounds in your head by watching YouTube tutorials of your favourite plug-ins.

■ **Multi-task.** Rather than fighting it out for weeks trying to create one song, try working on two or three at once. Rotating through your projects will give you a sense of perspective for what's working and what's not.

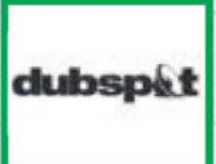


LEVEL UP WITH...



MACPROVIDEO
from US\$25 (\$34)/month/
macprovideo.com

Before YouTube and the rise of the video tutorial, learning to produce music was a mind-numbingly difficult process made insufferable by manuals. These days you don't need to read a book as thick as your forehead when there are sites like this devoted to advancing your knowledge.



DUBSPOT
[free / dubspot.com](http://free.dubspot.com)

A massive internet hub for music production, Dubspot is one of the world's most trusted online schools for learning how to produce tracks. Crammed full of articles, interviews with professionals and video tutorials, it focuses on the real nitty gritty of electronic music production, spanning a wide spectrum of DAWs and equipment.



SOUND ON SOUND
£4 (\$8) per issue /
soundonsound.com

It might be a touch on the serious side, but this music tech mag (founded in the mid-'80s) remains the best destination for in-depth kit reviews. All articles are archived online, and the tablet version for iOS and Android lets you listen to 'before' and 'after' mixes to help hone your musical ear.



STUDIO BOOSTERS

■ **Get MIDI.** If you want to stick with software instruments, use a good MIDI controller to record automation changes. This will liven up your compositions.

■ **Go analogue.** Analogue synthesizers have a denser sound than digital, and jamming away on hardware often breaks up the monotony of staring at screens and clicking mice.

■ **Use a sequencer or arpeggiator.** These throw random MIDI patterns at your synths and help you play with your filters until something jumps out at you.



MIXING TRICKS

■ **Take the bus.** Mix bus channels help you tweak levels and add effects to groups of tracks, helping you mesh them together for your stereo master.

■ **Turn everything down to turn it up.** High frequency elements can often overpower a mix, so start low and turn them up carefully one at a time.

■ **Use channel EQ.** High-pass EQ settings shave the lower end off individual channels to create space in a mix. Aside from kick and bass, most instruments don't need those potentially muddying low frequencies.



FINISHING TOUCHES

■ **Take a break.** When you have a rough version finished, leave your track alone for a bit. When you return you'll know instantly if it's finished or not.

■ **Invest in good monitors.** Pull them away from the wall and use acoustic foam and bass traps to improve the acoustics.

■ **Become a master.** Final mastering is best left to the pros, but if you need a rough master, apply a multi-band compressor, a stereo widening tool and – last in the chain – a limiter to the master channel before bouncing.



PLAYLIST

TECHUMENTARIES

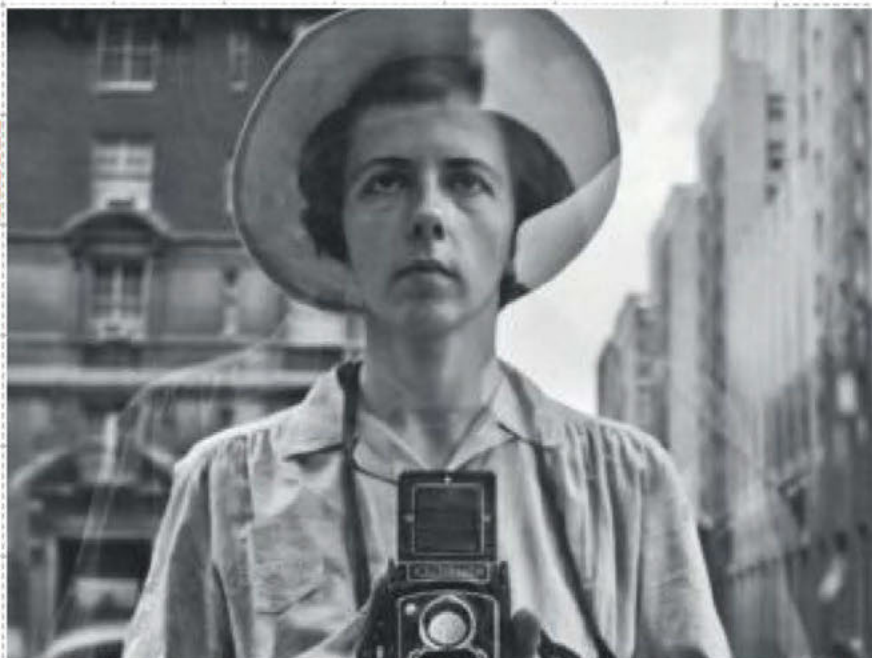
For a while, documentaries were seen as a bit stuffy, voyeuristic or condescending. But now we're falling back in love, with the help of our favourite streaming sites



Finding Vivian Maier

During her lifetime, Vivian Maier was an unremarkable nanny from New York. But in 2007 a photo collector bought a box of undeveloped negatives that would reveal her as one of the greatest street photographers of the 20th century. Uncover the mystery of Maier's Rolleiflex.

Amazon



Terms and Conditions May Apply

Terms And Conditions May Apply

A pre-Snowden klaxon about our shrinking privacy, this dives into the small print of tech companies' user agreements to show how they're taking us on a fast track to Orwellian scrutiny. Echoes of *Minority Report* still put a chill down the spine.

Netflix



I Am Street Fighter

Made for *Street Fighter*'s 25th anniversary, this details the classic game's history via the mildly terrifying Evo Championships. There's a lot of hyperbole but, as one talking head puts it, the game is essentially "a really well made rock-scissors-paper".

YouTube



We Are Legion

This is a must-see for anyone with the slightest interest in modern history. Although ostensibly a film about the Anonymous movement, it touches on many elements of internet culture (memes, trolling, geek humour) and is entertaining, if a tad one-sided.

Netflix



An Alternative Reality: The Football Manager Documentary

Part love letter to the series, part advert for *Football Manager 2015*, this fans-only look at the world's most addictive spreadsheet has enough nerdy nostalgia to make any armchair tactician get playing.

iTunes, Blinkbox, Google Play



Indie Game: The Movie

Following the preparation of *Super Meat Boy*, this doc reveals that being your own boss isn't all it's cracked up to be, especially in the often solitary world of indie games. Even if the film's human subjects aren't always likeable, their games are the stars.

Netflix, Steam, Vimeo, iTunes



Objectified

Every object you see around you started life in someone's mind. Specifically the imaginations of Dieter Rams, Jony Ive and Marc Newson, who explain the philosophy behind 'mundane' manufactured products. Slick and serious: watch as a Gary Hustwit double bill with *Helvetica*.

Amazon



Tim's Vermeer

Tech pioneer Tim Jenison has zero experience with a brush, but by remaking the 'camera obscura' he believes was used by Vermeer he finds he can create masterful paintings. What follows is a fascinating study in single-minded dedication.

Amazon Prime Instant Video



The Camera That Changed The World

Real life didn't exist until the portable film camera came in 1960, kicking open the doors of spontaneity and taking us from Mr Cholimondley-Warner to *Don't Look Back* in one step. Predictably, the US networks hated this new unstaged reality and refused to broadcast any of it.



Print The Legend

Not a fan of extruder nozzles or plastic ornaments? Don't worry, this doc ignores 3D printing's banalities and follows the journeys of Makerbot and Formlabs as they cope with the stresses of huge early growth. It's so entertaining you'll forgive it for avoiding certain questions.



The Internet's Own Boy

This is the story of programming prodigy Aaron Swartz, whose activism and subsequent arrest led to his suicide, aged 26, in 2013. The Reddit co-founder campaigned for greater access to public information. It's inspiring despite its disturbing view of the justice system.

YouTube



SCHOOL OF EASY DOCS

No more techumentaries left in the fridge? Time to raid these emergency stashes of free ones...

DOCUMENTARY HEAVEN

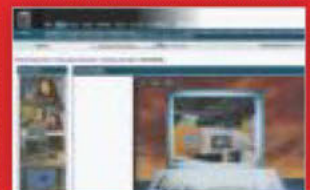
Rather than hosting films itself, this site collates all the free docs available on sites like YouTube and Vimeo and puts them all in one searchable, weekend-devouring place. Its handy 'Top 100' is the place to get started.

documentaryheaven.com



THOUGHT MAYBE

Adam Curtis fan? This independent archive hosts all of his compelling collage-docs, along with a huge library of films on 'challenging modern society, globalisation and dominant culture.' No, that doesn't include *Armageddon*. thoughtmaybe.com



INTERNET ARCHIVE

If you really want to disappear down the rabbit-hole, check out this vast chamber of retro shows. Its 'computers and technology' section has almost 100,000 videos alone. Someone should make a film about it...

archive.org

SUPER
GEEK

MACRO PHOTOGRAPHY

Marc McLaren explains why there's beauty to be found in the smallest of details, from the complex exoskeleton of a grasshopper to the water droplets on a wing mirror

When I was eight I was given a microscope for Christmas – and so began a fascination with nature's hidden details.

I would examine leaves and bugs and bits of food, thrilling at the intricacy; but with only my memory to preserve the images, the details faded. It wasn't until I discovered macro photography 25 years later that I was able to record and share the beautiful world of the very small. And that's when I got really obsessed...

So what is macro photography? Well, officially, it means any shot

taken with a 1:1 magnification ratio – meaning your subject will be depicted on the camera's sensor at its actual size. But that's a pretty dry way of saying that it's the art of photographing the minuscule. And an art it very much is. While in some ways it's the most scientific of photographic pursuits, lacking the spontaneity of street shooting or the anthropocentric artistry of portraiture, if you can't see the beauty in nature, you're frankly a bit of a lost cause.

For me, macro's appeal is threefold. First, there's the

scientific buzz to be had from delving into a world that few people notice, and capturing, for instance, the crystalline structure of a snowflake. No, you're not making any real discoveries, and no, you're not even the first to take a photo of that kind. But doing it yourself is still a hell of a lot of fun.

Second, there's a serenity in the shooting process itself. You have to be calm, methodical and very patient with macro – it's all about getting your flashes and tripods and other gear just so, then tweaking your focus until

it's spot-on. It's the photographic equivalent of model building or tinkering with cars – and every bit as satisfying when it works.

But most importantly, macro can be breathtakingly beautiful. That shouldn't be a surprise – nature's been creating jaw-dropping art for far longer than humanity, painting pictures with symmetry and fractals and long strings of DNA. Macro merely magnifies this natural art so that human eyes can appreciate it. Don't believe me? Just grab a camera and start shooting. You'll soon find it.

TINY TIPS

■ STOP IT DOWN

Depth of field is minimal at the macro level, so unless you're going for an arty, abstract shot you'll need to select as narrow an aperture as possible. About $f/16$ usually does the trick.

■ KEEP STILL

You're often going to be shooting at slow shutter speeds in order to cope with the narrow aperture, so a tripod is nigh-on essential.

■ FLASH IT AROUND

The alternative to using a tripod is to use a flash. What you really want is a ring flash; these clip on to your lens to provide a soft, consistent light source. Pricey, though.

■ STACK IT UP

Focus stacking can work well: you shoot dozens of photos of the same subject from the same position but with a slightly different focal point each time. You then combine the images in processing software and end up with one super-sharp macro shot.



OLLOCLIP MACRO 3-IN-1 LENS KIT

Stick an OlloClip on the back of a smartphone and you'll soon be hooked on macro. As the name suggests, this kit contains three lenses – 7x, 14x and 21x – plus a hood which helps the phone to grab focus. And the results are really quite good: the magnification is enough to get an instantly new perspective on the world, for instance highlighting the individual ink dots that make up coloured paper. The iPhone's sensor isn't big enough for super-sharp images once you zoom into your shot, but it's a cheap, easy way to dip your toes into the shallow macro waters.

US\$70 (\$95) / olloclip.com

THE
GATEWAY
DRUG

TAMRON SP F/2.8 90MM DI VC USD MACRO LENS

The easiest way to get consistently great macro shots is to buy a DSLR camera and a dedicated macro lens such as this Tamron. Its 90mm focal length will enable you to get a close shot while standing far enough back that you won't freak out your skittish subject matter, while the built-in stabilisation is a real boon if you're shooting handheld. There's a focus limiter to reduce the chance of the lens hunting around, though it snaps on pretty quickly anyway, and the big rubber grip is great for manual focus. Plus it's available in Canon, Nikon and Sony mounts.

US\$500 (\$675) / amazon.com

THE
AMATEUR'S
CHOICE



THE
EXPERT'S
TOOL



CANON MP-E 65MM F2.8 1-5X MACRO LENS

While a lens such as the Tamron will take you to a 1:1 magnification ratio, the Canon MP-E takes things a step further – or rather five steps further, offering a massive 5:1 ratio. So while a standard lens might let you make out the compound eye of a bee, the MP-E will go in close enough that you can count how many facets each eye has. Not that we can think of any reason why you'd want to do that. The downside? It's a tricky, fiddly thing to get right: you'll need a tripod, a flash and lots of patience. But arm yourself with those tools and you'll have the keys to a new world.

\$1739 / canon.com.sg

BUDGET MACRO



FROM \$9: REVERSE MOUNTING RINGS

These adaptors let you mount a lens on a DSLR camera backwards. The lens now acts as a magnifier in the way that a macro lens does, and the wider the lens, the greater the effect. Trust us, an 18mm lens reverse-mounted on a 200mm makes for crazy magnification. The downsides: no autofocus or aperture control, and your lens is open to the elements.



FROM \$20: MACRO CLOSE-UP FILTERS

These work in the same way as UV or polarising filters, screwing on to the front of your lens and helping it to focus more closely; stack several together to increase the effect. Use them on a telephoto lens and you'll reach that magic 1:1 ratio. You retain exposure and focusing control, but images are often softer than they would be with a macro lens.



FROM \$40: MACRO EXTENSION TUBES

These hollow tubes sit between the camera and the lens and make the lens behave like a macro. The advantage is that you shouldn't see any loss in image quality. However, they reduce the lenses' effective aperture by a few stops, which will increase the amount of light you need, and while connected you won't be able to focus on distant objects.



5-MINUTE HACKS

IF NOTHING ELSE, AT LEAST...

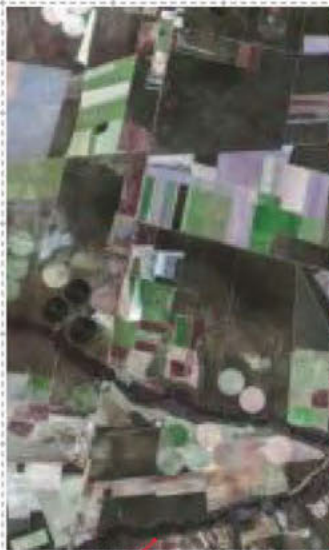
1 LIVEN UP YOUR WALLPAPERS

Live wallpapers are nothing new, but what if you'd like to turn any GIF or cinemagraph into your smartphone's new homescreen background?

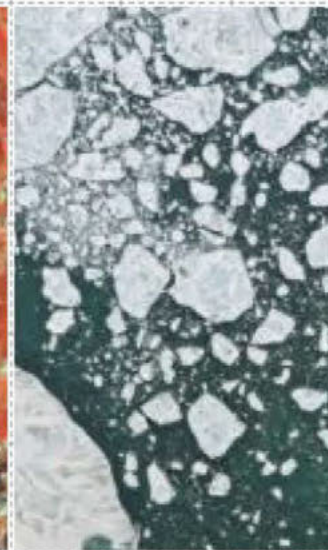
If you're an Android user, download AnimGif Live Wallpaper 2 (\$1.99, play.google.com). Load your favourite GIFs onto your SD card, open them in the app's settings and select 'image fitting mode'.

Options for iPhones are a bit more limited. Though we don't recommend jail-breaking your device, GIFPaper (cydia.saurik.com) is for those who have already taken the leap.

Prefer your wallpapers to be stunning—but-static satellite imagery? aerialwallpapers.tumblr.com has a fine selection of resized snaps from the likes of NASA and Airbus.



1



[Pictures geo-airbusds.com, flickr.com/nasa2explore]

2 TURN A CHEAP LAMP INTO AN IPAD MOUNT

This simple lamp moonlights as an outstandingly lazy bedside accessory, with these simple tweaks from ikeahackers.net – see bit.ly/ikeapadlamp

Gather the three things you'll need: Ikea's Tertial Work Lamp (\$15, ikea.com), a mini camera tripod, and a tablet holder with a tripod mount.

Remove the lamp's head and the swivel head from your tripod. Now add a machine screw to the lamp's plastic collar (which previously held the pinion) and install the knob.

Insert the machine screw into the base of your tripod and tighten. Finally, attach your tablet holder to the tripod head, and recline as if you're in business class.

3 MASTER YOUR GMAIL

Pimp your overflowing inbox with these upgrades:

Need a backup of your Gmail?

Use Google Takeout (google.com/settings/takeout). Or to create a searchable local archive, download Postbox (postbox-inc.com) or Thunderbird (mozilla.org).

Just committed a 'reply all' clanger?

It's too late, unless you've been into the 'Labs' section in Gmail's settings and enabled 'Undo Send'. It plucks recently sent emails and brings them safely home.

If you find yourself typing out

the same messages in a kind of Gmail Groundhog Day, enable 'Canned Responses'. You'll now get the option to add tailored stock responses in the 'new message' window.

3



TUNE IN NEXT MONTH TO...

● Discover the best techsperience days ● Go on a voyage of microscopy ● Become a master of drones



Stuff

TOP

TEN

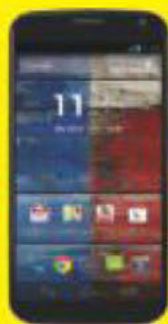
OF EVERYTHING

Smartphones	128
Tablets	129
Local Apps	130
HIFI & Music s	
treaming	131
Headphones /	
earphones	132
TVs	133
Laptops	134
Top five	
home computers /	
consoles	135
Wearables	
& smart home	136
Top five cameras	137

 For full reviews of every product in the top 10s, visit stuff.tv/reviews

HOT
BUY

1



Motorola Moto X

After the Moto X, you won't want to go back to any other Android. It's smart, fast and beautifully crafted. Motorola's software works together seamlessly to make your life that bit easier and its brilliant Moto Maker means a personalised top-spec smartphone like never before. The Motorola feels like it's built for everyone, something made even sweeter by the price. It's no budget Moto G, but it is a reasonable US\$550 (\$720) for the 32GB model. Who could say no to that?

STUFF SAYS

The first truly gorgeous, seriously-specced Android phone that puts you in control – it's brilliant

US\$500 (\$655)

★★★★★

2



LG G3

LG surprises us again. There's barely a single thing wrong with the G3... and so, so much that's right. Upgrades range from sleeker back buttons to the bigger, better 2K screen and laser-assisted camera. And it still lasts 15 hours. How do they do it?

\$868

★★★★★

3



Apple iPhone 6

With its slim, deeply attractive build and software overhaul, the iPhone 6 is the freshest-feeling iPhone in years. Its larger screen is big enough to be a useful improvement, with gorgeous colours, and this is Apple's best ever battery.

from \$988

★★★★★

NEW

4



Sony Xperia Z3 Compact

This is, without a shadow of a doubt, the best sub-5in Android phone around. The power of a full-size flagship, an excellent camera and an impressive battery life are all crammed into a device that's a pleasure to use no matter the size of your digits. Impressive stuff.

\$798

★★★★★

BEST FOR
DAINTY HANDS

5



HTC One M8

Only just toppled by the new LG, HTC's flagship phone has enough power to take it to the top of the AnTuTu benchmarks. It's a beaut to look at and to use, and it's even got a whole load of Lytro-style post-snap refocus features for photographic fun.

from \$848

★★★★★

BEST FOR
RAW POWER

NEW

6



Samsung Galaxy Note 4

Samsung was first at the phablet game, and with the Note 4 it's still the best. The ace camera, Multi Window feature and pressure-sensitive S Pen make proper use of the extra screen real estate. Plus, it has the longest battery life of any 2K phone we've tested.

\$1088

★★★★★

7



Sony Xperia Z3

The refined Xperia Z3 is the phone the Z2 should have been and every bit as good as that sounds. It's sleeker and easier to hold, but with the same stunning screen, camera and hi-res audio. Not to mention the incredible battery life. PS4 Remote Play is due soon.

\$998

★★★★★

8



OnePlus One

Believe the hype. To get one of the best smartphones on the planet, you don't need \$1000 or \$80 a month any more. You just need an invite. In terms of design, performance, screen and battery life you simply can't get better than this for anywhere near \$400.

from
US\$299
(\$390)

★★★★★

BEST FOR
VALUE FOR
MONEY

9



Samsung Galaxy S5

Big, bold and stuffed with tech, the Galaxy S5 is a bona fide superphone that will delight Samsung fans, although it has some very stiff competition. It has a faster processor, a slightly bigger screen and a more solid (if not quite stylish) feel than the S4.

\$838

★★★★★

10



Xiaomi Redmi

Dollar-for-dollar, this is undisputedly the best Android phone you can get for your money. At just \$169 without contract for excellent performance, solid hardware, and the gorgeous MIUI, you'll be hard pressed to find a realistic alternative.

\$169

★★★★★

BEST FOR
VALUE

● Prices quoted are for handset only unless otherwise stated

HOT
BUY
NEW

1



Apple iPad Air 2

The iPad Air didn't really need to be thinner, but that doesn't mean 6.1mm isn't mighty impressive. This combines with reassuring weight and impeccable build quality to make this the most desirable tab on the planet. While the display is the same Retina resolution as before, clever screen tech brings the pixels closer to the surface, and the whole experience is even faster than before thanks to the new A8X chip. Basically it's the best tablet in the world made even better.

STUFF SAYS

Thinner, lighter and mightier: Apple's iron-fisted reign at the top of the tablet charts continues unabated

from \$688

★★★★★

2



Apple iPad Mini 2 With Retina Display

The iPad Mini 3 is out now but all it adds is Touch ID. The good news is that the Mini 2 is now down to \$408, which is frankly bargain-tastic. That's why the 'old' model stays in our Top 10 – if you're after a mini-tablet of real quality, your choice has just got easier.

from \$408

★★★★★

3



Samsung Galaxy Tab S 10.5

Samsung has blessed the Galaxy Tab with one of the best tablet screens we've ever laid eyes on, plus an impressive camera and some incredible stamina – but there are performance niggles and Apple's tablet app selection is still far superior.

\$848

★★★★★

**BEST FOR
MAGAZINES
AND MOVIES**

4



Microsoft Surface Pro 3

At last, Microsoft has delivered on the promise of the tablet-cum-laptop hybrid. It proves there's space in the world for a design that's more productive than an iPad or Galaxy Note, but easier to hump around than a traditional laptop.

from \$1108

★★★★★

**BEST FOR
WORKING
ANYWHERE**

5



Asus Transformer Book T100

A stonkingly affordable tabtop with raw power, a neat design and great battery life – perfect for Office on the go, thanks to Intel's new Baytrail CPU. The 1366x768 screen is a good 'un too, with crisp text, great contrast and colours that pop.

from \$599

★★★★★

NEW

6



Google Nexus 9

The design isn't as pristine, but this is a real Android contender to rival the iPads. You get the new Android 5.0 Lollipop software, bags of power and a super-sharp display. With 12 hours of video play and two front-facing speakers, it'll be a great film buddy.

US\$399
(\$530)

★★★★★

NEW

7



Sony Xperia Z3 Tablet Compact

A slim, light and reliable couch or commute companion, with a screen that looks brilliant despite being 'only' Full HD. The waterproofing may sway people away from choosing an iPad Mini and every gamer's eyes will light up at the mention of PS4 Remote Play.

from \$598

★★★★☆

UPDATE

8



Samsung Galaxy Tab S 8.4

Samsung's superb screen, design, performance and a wider selection of optimised apps mean that against many other Android tabs it's still a winner. However, the new low price for the iPad Mini 2 makes the Galaxy Tab S 8.4 look rather pricey.

\$598

★★★★☆

9



Nvidia Shield Tablet

This really is the ultimate gaming tablet. The Shield's sheer power and gaming smarts are incredible, with a console-quality controller and the option of seamless streaming from your PC. All it needs now is more made-for-Shield games... lots more.

US\$299
(\$400)

★★★★☆

**BEST FOR
GAMING
ON THE GO**

10



Google Nexus 7

The Nexus has moved further ahead of the Android pack by virtue of getting an update to OS 4.4 KitKat. It's now smoother, faster and more battery-friendly than ever, while its 323ppi 1080p screen and quad-core power still impress.

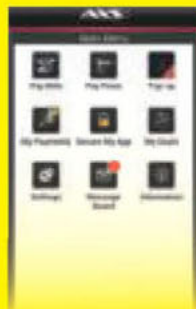
from
US\$229
(\$300)

★★★★★

**BEST FOR
VALUE AND
PERFORMANCE**

HOT
APP

1



AXS m-Station

No longer will you have to queue at actual AXS machines – which seem to only have a queue whenever you have things to pay – and you can use just one app instead of seven. AXS m-Station lets you pay for all your bills, fines, and fees all from one place via eNets, and will even save past payments for added convenience.

STUFF SAYS

A real time-saver, this is the only bill payment app you'll need

For : Android, iOS

\$free ★★★★★

2



HungryGoWhere

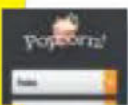
With its huge database of over 11,000 food joints and counting, the definitive food app also has tried and tested reviews from its many years active. Activate to see what's near you and even make reservations via the app itself. Handy for the hungry.

\$free

★★★★★

FOR
ANDROID
iOS
WINDOWS
PHONE

3



Popcorn!

Gathering information from GV, Cathay, and Shaw cinemas in one convenient location, you can watch trailers, search for showtimes, book tickets, and even get notifications when a new movie you've been waiting for hits the big screen.

\$free

★★★★★

FOR
ANDROID
iPhone

4



GrabTaxi

If you need a taxi dispatched to you in a matter of minutes, GrabTaxi is the best app to go with. It shows you the taxis nearest to you, and once you get details of a driver, tracks the taxi as it makes its way to you.

\$free

★★★★★

FOR
ANDROID
iOS

5



Uber

Ever wanted to be chauffeured around? Request a ride, and one of the growing number of Uber drivers will pick you up within minutes. You can even choose the level of luxury you want with the cheaper Uber X or upper-tier Uber VIP.

\$free

★★★★★

FOR
ANDROID
iOS

6



Burpple

Start a Burpple account and you'll find yourself in the embrace of like-minded people – food lovers. Just like Instagram except that it's about all things culinary, browse this visual guide to the places you must eat at, and the calories that truly count.

\$free

★★★★★

FOR
ANDROID
iOS
WINDOWS
PHONE

7



Entertainer

Save a ton of money with this app and redeem major one-for-one deals at a wide range of top restaurants and activities in Singapore, as well as luxury hotels across Asia. With over 1000 deal vouchers available, it'll pay for itself in no time.

\$free
(from \$19 a month)

★★★★★

FOR
ANDROID
iPhone

8



ComfortDelGro Taxi Booking

Even non-registered users can book a taxi with their current location determined by their smartphone GPS. But of course, there are perks being a registered user – it saves your last three pick up locations so you can make a booking even faster.

\$free

★★★★☆

FOR
ANDROID
iOS

9



I-S Now

Brought to you by the folks that do I-S Magazine, this city guide tells you all about what to do and where to be, featuring everything from upcoming events to new places to check out. It also pulls news so you can stay up to date with what's happening.

\$free

★★★★☆

FOR
iPhone

10



8 Days Eat

Get the lowdown on your favourite celebrities' best-loved haunts, or search for places according to cuisine, location, price and even mood. It's updated weekly to give you the latest in the food scene too.

\$free

★★★★☆

FOR
ANDROID
iOS

HOT
BUY

1



Sonos multiroom system

Who needs to drill holes and re-plaster walls to get a multiroom music system? Not you. With the addition of the cracking little Play:1 (\$349) Sonos has made it easier than ever to start spreading your tunes around. Then maybe hook up a Connect to your existing hi-fi and router, and add speakers to a Connect:Amp in another room, or a SUB for a bass boost. You'll run out of rooms before you run out of options. For a further upgrade, the Arcam rSeries SonLink DAC works a treat with the Connect.

STUFF SAYS

Infinite music in every room without the need for custom installers?

Sign us up now, please from \$698 ★★★★★

NEW

2



Naim Mu-so

£895 (\$1840) for a wireless speaker? Well yes, but what a wireless speaker it is. Naim has ploughed all of its high-end hi-fi experience into delivering a beautifully made, great-sounding device with AirPlay, Spotify Connect and aptX Bluetooth all on-board.

\$868
(\$1840)

★★★★★

BEST FOR
ONE-BOX
WI-FI HI-FI

NEW

3



Monitor Audio Airstream S200

It may look a bit like a floppy skyscraper, but the Monitor Audio's Bluetooth-plus-AirPlay speaker makes a lot of sense, mostly because it takes up very little shelf/desk/table space but makes loads of lovely noise. It's a bit of a steal at £200 (\$410).

£200
(\$410)

★★★★★

NEW

4



Cambridge Audio Go

There are loads of very cheap Bluetooth speakers out there, but we reckon it's worth spending that little bit more to get something that's really good – and that's the Go. It sounds awesome, it's really nicely built and its battery lasts a massive 18 hours.

\$288

★★★★★

BEST FOR
PICNIC PARTIES

NEW

5



Bluesound multiroom System

Fancy a bit of Sonos-style multiroom but with better-than-CD-quality sound thrown in? You want a Bluesound. There are all-in-one speakers, adapters for your existing hi-fi, and a Vault that rips and stores all your CDs. All can handle high-resolution audio.

from \$649

★★★★★

6



Audio Pro Addon T10

Available in orange, white or black, the Addon T10 is a Bluetooth speaker that also has analogue inputs and a USB socket for charging your MP3 player. Sound-wise it's punchy and deep, with just a little too much bass. It sounds best in orange, obviously.

£280
(\$575)

★★★★★

7



Libratone Zipp

A fuzzy, cylindrical, colourful AirPlay dock that will deliver detailed, punchy 360° sound anywhere at all, thanks to a built-in battery that gives it four hours of outdoor life. Direct Wi-Fi skills free you from cables, routers and everything but the boogie.

\$599

★★★★★

BEST FOR
AL FRESCO
PARTIES

NEW

8



Cambridge Audio Minx Xi

It might not look all that fancy, but the Minx Xi is like that micro system you had at uni, only it gobbles internet music rather than Rage Against The Machine CDs. Just add a pair of quality speakers (try Wharfedale Diamond 220s) and you've got a great hi-fi.

£450
(\$925)

★★★★★

9



Q Acoustics BT3

These ultra-versatile Bluetooth speakers have an optical input for waking up the audio of your flatscreen TV. The styling is simple and so is the sound – brilliantly so, with perfect hi-fi balance and an impressive focus to the stereo image.

£350
(\$720)

★★★★★

10



Sony NWZ-ZX1

The latest Walkman is a premium high-res audio player, and it's the best-sounding portable device we've ever heard: you'll notice parts of songs you never knew were there. We're not so keen on the high price and lack of expandable storage, though.

\$899

★★★★☆

HOT
BUY

1

**AKG K451**

They've actually been around a little while now, but what put the K451 on-ears back on to our radar was an official price drop from £150 (\$310) to £70 (\$145), and a real-world price of just £55 (\$115) or less. For that money they're unbeatable – awesomely agile and punchy sound wrapped up in a subtly stylish and foldable design. Add both standard and three-button control cables for maximising compatibility and there's practically no excuse for not getting brilliant sound from your phone.

STUFF SAYS

Fantastic sound and great portability at an almost unbeatable price: the perfect PMP upgrade
£50 (\$105) ★★★★★

NEW

2

**Philips Fidelio M1 MkII**

Your commute deserves a quality soundtrack, and second-generation Fidelio M1 headphones give you precisely that. There's oodles of detail to the sound and they punch harder than the Hulk. Beats and their ilk can't touch them.

£180
(\$370)
★★★★★

NEW

3

**SoundMagic E10S**

This is actually the third version of SoundMagic's awesome, affordable in-ears – not that you'd tell by looking. They sound even better, though: a little smoother and more refined, with tight, weighty bass. Plus there's now a mic and button for smartphone use.

£30 (\$60)
★★★★★

NEW

4

**Sony MDR-EX650AP**

If you're prepared to pay a little extra for your in-ears, these Sonys are even better than the SoundMagics above. The sound is that bit bigger, a little more detailed and a little more grown-up, and if you don't like the brass finish there's a silver version.

£60 (\$125)
★★★★★

NEW

5

**Bose QuietComfort 25**

The best kind of silence is the kind you then fill with sweet, sweet music, and that's what the QuietComfort 25s give you. The active noise-cancelling quells office hubbub, air-conditioning and aeroplane hum, and delivers cracking sound in its place.

\$529
★★★★★

**BEST FOR
SHUTTING OUT
THE WORLD**

6

**Philips Fidelio M1BT**

There's a comprehensive set of controls, while the dark blue-grey design is nicely understated – no Bose-esque sticky-out Bluetooth modules here. Cut the cords with style and substance: these are the best Bluetooth headphones around.

\$454
★★★★★

**BEST FOR
GREAT SOUND
WITH NO WIRES**

NEW

7

**AKG Y50**

The bright colour options (they're available in yellow, teal and red, as well as black) and massive logo have a slight try-hard feel about them, but the Y50s make up for it by sounding loads better than the more 'street' on-ear headphones out there.

£80
(\$165)
★★★★★

8

**Sol Republic Master Tracks**

Really tough things are usually really ugly, which is why the lovely styling of the "virtually indestructible" Master Tracks headphones is so refreshing. Loud, punchy, fast and controlled, the sound is just as attractive as the design. Worth every penny.

£100
(\$205)
★★★★★

9

**Sennheiser Momentum**

Classily styled, cushion-comfortable and smooth-sounding, the Momentums are the perfect over-ears for the dapper man about town. There's also an on-ear version, smaller and cheaper at \$229, available in pink, blue, green, brown and, um, 'ivory'.

\$369
★★★★★

10

**PSB M4U2**

Yes, the M4U2s have got great noise-cancelling, but that's only half the story. Using the built-in amp produces a sound that's almost unbelievably punchy, clean and exciting. They might be a bit heavy, but that audio quality really is worth the weight.

\$499
★★★★★

HOT
BUY

1

**Samsung UA65F9000AK UHD 4K TV**

You won't have to fork out thousands of dollars to get a new TV when 4K content comes to town. Its future-proofed Smart Evolution feature lets you purchase and attach a next-generation kit to boost the performance and compatibility of the smart TV for future 4K video standards. Now that's upping the ante.

STUFF SAYS

Upgrading your TV has never been easier. Just plug a new kit, and voila - instant TV with boosted hardware and better features

\$9499 ★★★★★

2

**Samsung UA55H7000AK**

Striking a fine balance between design and performance, this slim yet powerful LED TV is a great centrepiece for your living room with its 1080p screen resolution and simple yet smart features.

\$3499

★★★★★

3

**LG 55LB750T**

LG's latest full HD TV is armed with a modest 2.1 channel, 24W speaker that complements the clear and sharp imagery. It's also the first webOS-powered TV, showcasing how smart TVs should be made.

\$3299

★★★★★

4

**LG LA9700 UHD 4K TV 55in**

8.3 million pixels on this LG ultra HD 4K TV will give your eyes a visual treat. LG's upscaling technology, which analyzes data and enhances each pixel, delivers a smashingly, eye-popping viewing experience with your usual full HD content.

\$6999

★★★★☆

5

**Samsung UA65F8000AK**

Armed with a quad-core processor to power its smart features, this smart TV from Samsung is a good-looking beast, thanks to its slim 5mm bezel, crisp metal finish and deep arc stand. Let its Intelligent Viewing automatically optimise the picture.

\$8999

★★★★☆

6

**Sony KDL-55W800B**

Design is clearly a priority with this beautiful Sony display. The LED panel and full HD resolution will amaze you, but not as much as the old-school user interface that'll make you feel right at home.

\$2999

★★★★☆

7

**LG LA8600 55in**

Armed with an elegant design and ultra narrow bezel, this LG full HD TV is so sleek you might mistake it for an actual canvas on the wall. Motion blurring is removed with its TruMotion 240Hz feature and its flicker-free 3D glasses brings movie to life.

\$4899

★★★★☆

8

**Toshiba 39L3300VE**

This slim full HD TV delivers an astounding 1080p viewing experience, for a fraction of the prices tagged to the latest full HD TVs. Hook it up to your game console, and you get to hear and see its amazing Game sound and video mode.

\$899

★★★★☆

9

**Sony KD-55X8504A**

Welcome to the cheap end of the 4K ultra high definition (UHD) spectrum. The only caveat, is the lack of 4K content to play with. That said, normal HD movies looks just as wonderful, so the \$5999 spent is justifiable.

\$5999

★★★★☆

10

**LG LN5710 42in**

The best TVs are those that get the job done, without diverging from its real mission - delivering crisp and sharp full HD movies. This modestly-sized (by TV standards) LG display has the smarts to record TV shows within its 2GB internal memory.

\$1099

★★★★☆

HOT
BUY

1



Apple MacBook Air 13in (2014)

The 2014 MacBook Air update means, once again, our favourite old laptop is now our favourite new laptop. Nothing's changed on the outside, and under the skin there's just a slight processor boost from 1.3GHz to 1.4GHz, but combined with a price cut of £100 on each model we're still happy with that. The very top model, which comes with a 256GB SSD, is now just under a grand, too. Head to stuff.tv for our full reviews of both 13in and 11in versions.

STUFF SAYS

It's not a major upgrade, but Apple has improved the Air's already awesome spec and lopped £100 off the price

from \$1328 ★★★★★

2



Apple MacBook Pro with Retina Display 13in (2014)

Choosing between Air and Pro is getting harder. Both now run on Haswell chips, but the Pro is faster, with a 2014 processor boost. There's a 4K-capable Thunderbolt 2 port, and then that Retina screen, one of the most gorgeous you'll see. Tough call.

from \$1688
★★★★★

BEST FOR
RAW POWER

3



Microsoft Surface Pro 3

The fact that it's the only device to feature in two of our Top Tens is a testament to the Surface Pro's versatility: it's a strong tablet, but its full-fat operating system and powerful innards mean it's also a worthy adversary to Ultrabooks and MacBooks.

from \$1291
(with Type Cover)
★★★★★

BEST FOR
RAW POWER

NEW

4



Dell Chromebook 11

Well-built, tough and powerful: Dell has delivered pretty much all you could want from a wallet-friendly Chromebook. Its high-quality finish, solid keyboard and responsive trackpad feel premium and it's a runaway success in our benchmarks.

FROM
US\$279
(\$365)
★★★★★

BEST FOR
RAW POWER

5



Alienware 17

A brute of a machine in every way, the Alienware 17 weighs as much as four MacBook Airs and probably frags harder than 10 of them. Core i7 Haswell processor at 3.4GHz, Nvidia GeForce graphics, up to 32GB of RAM... our trigger finger's already itching.

from
\$3299
★★★★★

NEW

6



Lenovo Yoga 3 Pro

The third entry in the Yoga Pro line refines the laptop/tablet hybrid design with a power-sipping new Intel Core M processor plus slimness and style to make even the MacBook Air look worried. And you can stand it up like a tent. If you want.

from
\$2299
★★★★☆

NEW

7



Asus C200

The holy grail of laptop battery life is 10 hours, and Asus's C200 Chromebook misses it by 17 minutes. That's as good as we've seen from a MacBook Air costing five times as much. There are more powerful Chromebooks, but this one just keeps on going.

from
US\$179
(\$235)
★★★★☆

8



Acer Aspire S7

The Aspire S7 is almost the perfect Ultrabook – it matches the MacBook Air for weight, beats it for slimness by 6mm, and has a gorgeous 2560x1440 touch-friendly screen. Only its battery, which lasted a mere 5hrs on test, prevents it getting that fifth star.

from
\$2198
★★★★☆

NEW

9



Toshiba CB30-102

Although this Chromebook only includes 2GB of memory, it wowed us with its incredible performance. It's able to juggle the web's most demanding sites without any lag or stuttering and its appealing larger screen makes it well suited for media.

£220
(\$450)
★★★★☆

10



Acer Aspire Switch 10

A Windows laptop and 10.1-inch tablet for just \$549? This seriously flexible bundle is Asus's best hybrid yet. Only a bit heavier than a MacBook Air, the square-edged ergonomics and battery life are issues, but as a whole package it makes a lot of sense.

\$549
★★★★☆

● Prices quoted are for handset only unless otherwise stated

HOME COMPUTERS

HOT BUY	1		Apple iMac Other than regular power upgrades and a bit of slimming, the iMac has been largely unchanged for a while, but it does now run Apple's lovely Yosemite OS. There's also now a more affordable version and an eye-wateringly expensive 4K model.	from \$1488 ★★★★★	BEST FOR ALL-ROUND BRILLIANCE
	2		Sapphire Edge VS8 This mini-PC may look like the Terminator's lunchbox, but it houses AMD's 1.6GHz A8 APU and dedicated HD7600G graphics with 4GB of RAM. A capable little fellow, the VS8 even does a decent job with the latest gaming titles (with the detail dialled back a little).	from \$699 ★★★★★	BEST FOR COMPACT POWER
	3		Alienware X51 (2014) The X51 hasn't changed a huge amount, but the wee size matched with powerful components make it perfectly suited to HD gaming. Steam Machines are going to liven this market up but right now it's the best balance of power and form in PC land.	from \$1699 ★★★★★	
NEW	4		Raspberry Pi Model B+ It's a fully functioning PC that's barely bigger than a credit card, and now it's a little more flexible than before thanks to two extra USB ports and better power management. Don't expect a 'proper' computer – this is for tinkerers after a fun new project.	from \$45 ★★★★☆	
NEW	5		Zotac ZBOX Sphere OI520 About the size and shape of a cannonball or cantaloupe, this striking sphere will certainly draw attention. For media playback it's perfect, but high-end gaming is a no-go due to low frame rates. However, even in full swing it barely raises a decibel.	\$659 ★★★★☆	

GAMES CONSOLES

HOT BUY	1		Sony PlayStation 4 It may not quite be the finished article, but this is the best games machine on the planet. It has whisper-quiet operation, a sleek form and bags of power, with full 1080p on all titles and not a whiff of lag. When proper media streaming arrives, it'll be unstoppable.	from \$639 ★★★★★	
	2		Microsoft Xbox One This is very different to the Xbox One of 2013. Most significantly, the unpopular Kinect feature is now out of the deal, allowing Microsoft to drop the price and releasing enough extra power for developers to make their games look and play better.	from \$639 ★★★★★	
NEW	3		Alienware Alpha It's not quite a PS4 or Xbox One-beater, but this is the most console-like PC there's ever been. Steam is the main interface, but it runs on top of Windows for maximum game compatibility, and performance is very impressive.	from US\$500 (\$675) ★★★★☆	
	4		Nintendo 3DS The 3D effect may be a gimmick that hasn't paid off, but put that to one side and the 3DS is still the king of the portable games machines. The XL is the biggest version yet, and there's now a massive catalogue of inventive dual-screen games to play.	\$309 ★★★★☆	
	5		Nintendo Wii U While it hasn't had the same impact of the original Wii, don't underestimate the U's fun factor. Nintendo's bottomless bag of superb game franchises rolls on with the excitement of <i>Mario Kart 8</i> , with its anti-gravity karts and submarine racing.	\$459 ★★★★☆	

HOT
BUY
NEW

1



Pebble Steel

Unveiled at CES 2014, the Steel keeps the straightforward looks, crisp display and five-day battery life that helped the standard Pebble win our hearts. But it holds more RAM, apps and customisable faces this time, and swaps the plastic for either a 'Steel' silver or matte black stylish suit, making it look and feel more like an actual watch. The Steel goes beyond the gimmicks and into the world of real-world wearable tech. Pop it on your wristwear wish-list.

STUFF SAYS

The best smartwatch money can buy... and the original plastic Pebble is still available for £50 less from US\$248 (\$325) ★★★★★

2



Fitbit Flex

The Flex delivers all of Fitbit's activity-tracking smarts but in a form factor that's less fiddly than its belt-clip counterparts. It's packed with Bluetooth, NFC, vibratamotor and an LED display. See also the new Fitbit Charge, with a full display, for £30 more.

\$129

★★★★★

BEST FOR
TRACKING
YOUR LIFE

3



Jawbone UP24

Now with Bluetooth for hassle-free syncing, the stylish UP24 is worth the extra £25 over the Jawbone Up. The app introduces new challenges and tracks your sleep patterns. It will also gently nudge you, if you're lazing around, to get back on the move.

\$249

★★★★★

4



Motorola Moto 360

With its iconic, head-turning design, this could be the first wearable you will want to wear. The Moto 360's our favourite and most comfortable Android Wear watch so far, but the battery might make you anxious and it's a few specs short of brilliance.

US\$250
(\$325)

★★★★★

5



Philips Hue

Pair these smart LED bulbs with 'recipes' on ifttt.com – set them to change colour with the weather or when it's time to run to the train. They also tie in with Philips' own Ambilight TVs, casting the colours from the screen across your entire room..

from \$89

★★★★☆

6



Roku Streaming Stick

'Streaming Stick' tells you all you need to know, really: this is a stick, and it streams. It streams plenty, too – Netflix, iPlayer, Spotify, Sky Now and Sky Go to name a few. And unlike Chromecast, it's also a dab hand with your own video and music files. Lovely stuff.

US\$40
(\$50)

★★★★☆

NEW

7



LG G Watch R

This circular smartwatch won't win any beauty contests, but that's about its only flaw. The G Watch R's plastic OLED screen has deep blacks, sharp text and good visibility. Its battery easily lasts a day and a half, and using it is a smooth experience.

\$398

★★★★☆

8



Google Chromecast

This USB memory-stick-sized cord-cutter is compatible with Netflix, YouTube, Google Play movies and BBC iPlayer: a cheap, simple way of getting web-sourced movies and shows onto your living-room TV.

US\$25
(\$33)

★★★★☆

9



Samsung Gear Live

Could it be fourth time lucky for Android Wear? A waterproof 1.63in Super AMOLED screen, a resting heart monitor and a growing selection of apps all say yes. Its pitiful one-day battery life lets it down, though.

US\$200
(\$260)

★★★★☆

10



TomTom Multi-Sport Cardio

The new version of the TomTom Multi-Sport adds an impressively accurate heart-rate sensor to an already strong formula, allowing for more focused and personal training. It'll track runs, cycles and swims, and the companion app is also much improved.

\$499

★★★★☆

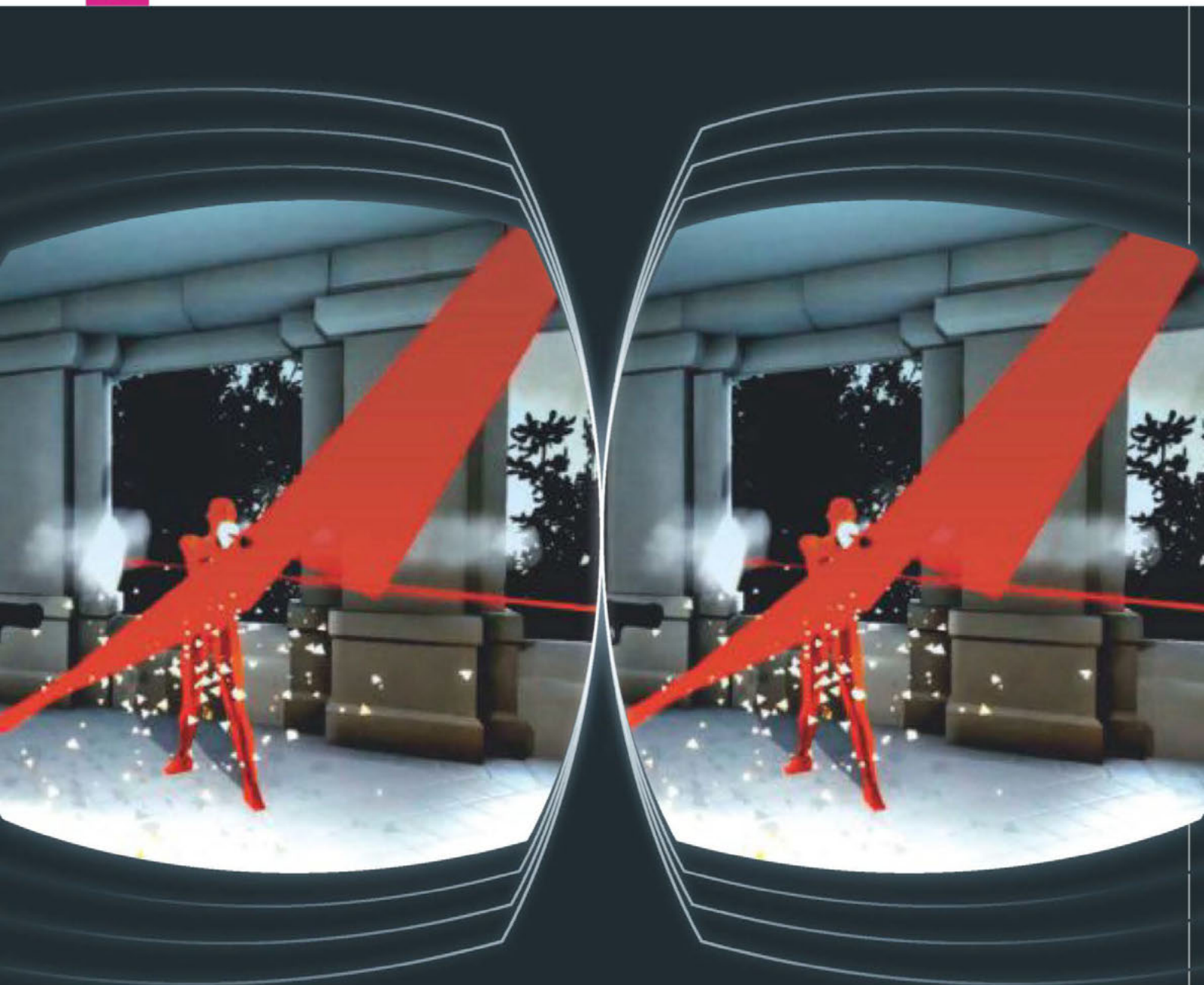
BEST FOR
TRIATHLETES
IN TRAINING

SLRs

HOT BUY	1		Olympus OM-D E-M1 The Olympus flagship is armed with the same excellent 16.3MP sensor as its predecessor the E-M5, but has an improved autofocus system, a startlingly good electronic viewfinder and masses of direct controls. Also look out for the E-M10.	\$1948 (body only)	★★★★★	
	2		Canon EOS 700D Look, it's a new Canon at No2. No, wait, it's the old one. Actually, it's kind of both. The 700D is a minor upgrade over the 650D, keeping its 18MP sensor, flip-out touchscreen and autofocus during video and adding little beyond a new kit lens. Still great, though.	\$799 (body only)	★★★★★	BEST FOR ALL-ROUND VALUE
	3		Sony A6000 Sony's new system camera may be tiny but it packs a big photographic punch. There may be no optical image stabilisation but the incredible speed and accuracy of the A6000's autofocus is a real highlight, as is its large, clear electronic viewfinder.	\$1099 (body only)	★★★★★	
	4		Nikon D750 It's big and bulky, but otherwise this is one of the most comfortable and intuitive DSLRs money can buy. And with a handy tilt screen and some wireless connectivity features, there's none of the purist snootiness that we saw in the D810.	\$3079 (body only)	★★★★★	
	5		Sony A7R We love this camera. It's lightweight but tough and delivers results that outstrip pretty much any other compact system camera on the market. It has a huge full-frame 36.4MP sensor and noise-suppression. Your wallet might weep, but your photo album will sing.	\$2799 (body only)	★★★★★	

COMPACT CAMERAS

HOT BUY	1		Sony DSC-HX60 V 2014's HX60 isn't a huge departure from its predecessor in terms of its build quality, ease of use, specifications and 30x zoom lens – all of which are excellent. What it does add is NFC and a newer Bionz X processor, making it a slightly nipper performer.	\$569	★★★★★	
	2		Sony DSC-RX100 III If you're looking for the best tiny snapper around, this is it. Excellent image quality, fast autofocus, a useful electronic viewfinder and professional video recording, all squeezed into a truly teeny package that'll fit into your jeans pocket. We're smitten.	\$1199	★★★★★	
	3		Fujifilm FinePix X100S Fujifilm's souped up its fixed-lens retro shooter, with faster focusing and a big APS-C sensor. It's not all new, though, keeping the 35mm-equivalent f/2 lens and hybrid viewfinder from the X100. A less retro version with black finish is now available too.	\$1799	★★★★★	
	4		Canon PowerShot G16 The G16 packs a lot into its sturdy body: optical viewfinder, loads of manual controls and an f1.8-2.8, 28-140mm (equivalent) zoom lens. Upgrades over the G15 include Wi-Fi and faster burst shooting of up to 12fps, while image quality is as good as ever.	\$699	★★★★★	
	5		Nikon Coolpix AW120 The ultimate rugged camera: almost indestructible, and fit for temperatures as low as -10°C, it will even survive a rinse cycle in your dishwasher. The AW120 also takes lovely pictures and impressive video in both good lighting and dimmer conditions.	\$469	★★★★★	BEST FOR EXTREME EXPLOITS



FORENSIC HOLODECKS

Someone's been watching *CSI* again. Nah, for hangover-friendly drama it's got to be *Cold Case*. Anyway, this isn't ludicrous *CSI* tech where detectives zoom into an image of the victim's cornea to find the murderer's reflection. This is based on real gadgets, namely the Oculus Rift. For years, police have been 3D-scanning crime scenes in meticulous detail using lasers. The trouble is, those details are usually then presented to juries on 2D paper. So the University of Zurich has made a prototype 'Forensic Holodeck' to plug the gap (and make courtrooms more fun).

That's not fair, I've already done jury service... Well, you'll have to buy an Oculus Rift with a copy of Old Bailey VR and its Magistrate Mayhem expansion pack. The tech isn't quite ready for 'crime-time' anyway. So far there's been one reconstruction of a shooting with this setup, which uses a Rift, an optical tracker, a laser scanner and Autodesk software. The tracker measures the wearer's position, letting them walk around the crime scene and experience another person's line of sight. Handy if there are doubts about whether the witness could see the suspect. Cue gasps and a fainting juror.

This isn't Judge Judy. Since when were games consoles admissible evidence?

Since they became accurate enough to help make super-informed decisions. Take bullet trajectories – not that easy to get your head around when they're a line on a bit of a paper, but see them in a virtual 3D environment and suddenly you're Columbo. The prototype was based on footage captured by CCTV at an internet cafe, where seven shots were fired. The accuracy needs to be fine-tuned, but it won't be long before you're cancelling your holiday to do jury service, rather than the other way round.

[Words Mark Wilson Image Superhot]

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